Town of Amherst

Draft Open Space and Recreation Plan

March 2009

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Section 1. Plan Summary

The 2008 Town of Amherst Open Space and Recreation Plan (OSRP) is an update to an earlier plan, designed to re-examine Amherst's need for new and/or enhanced preserved land, and conservation and recreation areas. The plan describes the community's open space and recreation goals and objectives for the next five years, and actions the community plans to undertake to achieve those goals and objectives. Because of Amherst's long history of planning for both recreation and conservation lands, organized (indoor and playing field) and open space recreation opportunities are available in Amherst year-round. There is a natural and increasing linkage in the community's planning for these aspects of our shared life.

This update process began in spring 2007 with the establishment of a team from the Conservation and Planning Department and the Leisure Services and Supplemental Education (LSSE) Department. A series of five public meetings were held from mid-June through mid-November to gather input from residents regarding priorities, desires and needs. The draft plan and accompanying maps were then posted on the Town web site for public comment and review in March, 2007. From this process, a set of priorities and a five-year action plan were created to outline specific tasks to meet Amherst's open space and recreation goals.

As defined, open space "is land set aside and permanently restricted for conservation, agriculture or recreation purposes by a municipality, state or federal agency, nonprofit conservation organization or land trust, homeowners association, or person. Open space may include woodlands, pasture, landscaped yards, gardens or play areas, golf courses, walking and riding trails, and similar areas as appropriate to the site" (Cape Cod Commission Regional Policy Plan for Barnstable County, 1996).

Philosophy

The philosophy of open space and recreation planning and protection in Amherst is established as follows:

- Protected land is essential to Amherst's appearance, economy, and well-being. Conservation land helps maintain the town's rural character, provides adequate land area for traditional and modern forms of outdoor recreation, and protects important wildlife habitat for both game and non-game species. Protected farmland provides a permanent base on which present and future farm businesses depend, and helps farm support businesses maintain a significant presence in Amherst and adjacent towns. Protected land also ensures clean water for wells and reservoirs near Town water supplies.

- Amherst is tremendously diverse in its flora, landscapes, wildlife, and land use. Continued protection of a full range of types of open space

and farmland will help maintain that diversity in the face of mounting development pressures.

- Traditional resource-based economic activities such as agriculture and forestry, and traditional forms of recreation such as fishing and hunting continue to play major roles in Amherst. The Conservation Commission and Conservation Department need to continue to help keep those traditions and their associated cultural practices viable by working closely with farmers and farmland owners, encouraging the farm economy, carrying out ecologically-sound forest and open land wildlife habitat management on Town watershed lands in four towns, and renting out fields for farm production and community gardening.

- Open space should be not just the land left over after development but space whose preservation as to land type, location, and connectedness is actively planned to contribute to the character and quality of the town's total environment, and to ensure the continued existence of a 'critical mass' of connected land areas needed to sustain traditional resource-based economic activities and recreation.

- Setting aside conservation land and farmland in outlying areas of town is one aspect of Amherst's long-established planning goal – to direct new growth toward existing developed centers. This preserves Amherst's historic pattern of development (village centers separated by open land) and reduces the need for continual expansion of expensive systems of public utilities and services.

- Public conservation land serves as an important amenity for those who do not have sufficient private land of their own on which to recreate and directly experience the outdoors. The provision of conservation land close to home can also keep residents' recreation spending within the local economy – money that might otherwise be spent traveling out of town or out of state to parks, open space, or other distant recreation destinations.

- The rate of open space protection should roughly parallel the rate of development in town so that the two can complement each other. The protection of conservation land and farmland should go hand-in-hand with attention to other town needs such as the provision of low- and moderate-cost housing; the establishment of adequate playground facilities in existing or growing developed areas, and active recreation sites for sports like soccer, baseball, and swimming; and the protection and enhancement of historical sites and landscapes.

- Amherst's expanding system of conservation lands and trails, and its extensive opportunities for outdoor recreation of all kinds, generates

an increasing need to coordinate and fund the management of conservation lands and trail systems with recreation planning and programming.

- Emphasis shall be given to the protection of key wetlands, rivers and tributaries, and associated ecosystems to ensure habitat, biodiversity, and quality of life, including the Fort and Mill Rivers, Lawrence Swamp, and key tributaries.

- As the resident population of Amherst continues to increase, the number and extent of recreation and open space facilities also needs to increase in order to keep pace with community needs.

- Provide recreation areas that can offer opportunities for lifelong fitness and learning for residents of all ages and abilities.

- To augment and enrich Amherst's open space and recreation programs, involve the community directly through Friends Groups and volunteer participation in conservation and recreation projects.

- Building on years of successful collaboration, Amherst should continue to build on established relationships with land conservation organizations such as the Kestrel Trust, Valley Land Fund, and state agencies such as the Massachusetts Department of Conservation and Recreation, and Department of Fisheries and Wildlife.

- Local media and internet resources will be employed to better inform citizens of public and private open space and recreation resources within the Town.

Goals

Summary of five-year open space and recreation goals based on priority (2008-2013)

- Complete acquisition of partially protected blocks of open space by acquiring Conservation Restrictions, APR's, or outright title to strategically-located parcels.

- Protect wetlands, rivers and streams, and water supply sources through a combination of land management, land acquisition, and enforcement of regulations that protect wetlands and other water resources.

- Protect and encourage productive farms and agricultural business on those farms through (1) the completion of protected blocks of farmland

in Amherst by the selective purchase of Agricultural Preservation Restrictions by the Commonwealth and the Town; and (2) the active support of farming through the work of the newly formed Agricultural Commission in refining town Farmland Conservancy zoning, in helping to eliminate or modify institutional and regulatory obstacles to farming, in educating the public about the role of farming in Town, and in helping provide a forum among farm owners and others for discussion and resolution of certain local farm issues.

- Manage town land resources and facilities to maximize their value for wildlife habitat, recreation, scenery, historic value, and the enhancement of the town's appearance and natural resource base.

- Increase investment in the improvement, renovation, expansion, and maintenance of existing overburdened recreation fields and facilities.

- Make use of Community Preservation Act (CPA) funds for conservation, farmland protection, and recreation in a way that complements the other CPA goals of historical preservation and provision of affordable housing.

- Balance the impact of new development by working with applicants and the Planning Board to secure open space, restrictions, and easements to provide scenic protection, future public recreation, trail access, and wildlife habitat protection as the development process takes place.

- Embark on a program of acquiring new properties for multi-purpose team sports fields, strategically-located smaller parcels for neighborhood parks and play areas, and properties for village center indoor recreation.

- Improve the present multi-town trail system by: 1) improving yearly trail maintenance; 2) rehabilitating or repairing damaged trail sections; 3) clarifying and strengthening regulations governing trail use; 4) expanding the trail system to provide new connections to residential neighborhoods, new loop trails on present conservation land, and new extensions to and connections with the Norwottuck Rail Trail; 5) establishing new off-road routes to replace short road sections of the Robert Frost and KC Trails; and 6) preparing and implementing a universal access trail plan for the Town .

- Improve access to outdoor recreation facilities, including improved signage and linkage with conservation trails, public transit bicycle facilities, nearby sidewalk systems, etc.

- Expand protections for the Robert Frost Trail (RFT), the Ken Cuddeback (KC) Trail, and sections of other present and future trails that cross private land by establishing permanent easements to replace unwritten oral agreements.

- Protect scenic points from which to view important natural features such as the Lawrence Swamp, Mount Holyoke Range, Pelham Hills, ponds, and rivers, farmland, and others.

- Enhance outdoor recreation opportunities, including: 1) non-consumptive passive – hiking, cross-country skiing, bicycling, horseback riding, picnicking, pond swimming, birding, and nature study; 2) traditional consumptive – hunting and trapping in selected locations, fishing, and others; and 3) active – pool swimming, team sports, and other activities that require built facilities.

- Develop a plan to design a network of 'natural' linkages throughout town, including greenways, trails, bike paths, and safe sidewalks connecting neighborhoods, parks, and schools.

- Establish small conservation areas and trails in or near the Town center and village centers for use primarily by residents of the immediate neighborhoods and other citizens, connected where feasible to other Town trail systems and transportation links.

- Improve and maintain existing commons, parks, cemeteries and other public green spaces to help them serve as attractive destinations within the more densely settled areas of Amherst, including outlying village centers such as South Amherst, and North Amherst, and the downtown.

- Design LSSE programs that encourage citizens to us Amherst's extensive system of conservation trails and lands through events, regular interpreted tours, LSSE educational programs in nature study, etc.

A. Statement of Purpose

Amherst has engaged in active planning for open space and recreation since the late 1960's. During the majority of that time, the bulk of the community's efforts at conservation land planning were aimed at acquiring and preserving critical lands (greenbelts along streams and rivers, wetlands, unique habitats, important wildlife habitat, and prime farmland). Community efforts for recreation focused on maintaining and improving existing community facilities (often facilities shared with the schools) for formal recreation and team sports-swimming pools, mixed-use ball fields, etc. – with only occasional attempts to acquire new lands and expand capacity.

Amherst's steady growth and changes in the community's complexity and needs are creating new pressures and trends that will require new directions and a more complex, coordinated approach to the provision of preserved land and recreation resources. To address these concerns, the Town has developed this plan with the following purposes:

- ❖ Identify existing needs and/or concerns of residents in relation to preserved land and recreation areas.
- ❖ Identify specific goals and objectives, and resulting actions the Town will take.
- ❖ Create a Five Year Action Plan to itemize open space projects in order of need and importance.
- ❖ Act as a guide to direct planning efforts in the future given Amherst's limited monetary resources.

The Conservation Department manages 1,965 acres of conservation land, including more than 40 open fields; maintains some 80 miles of foot trails; has been involved in the acquisition of Agricultural Preservation Restrictions (APR's), securing over 1,842 acres of farmland, and an additional 157 acres covered by Conservation Restrictions; coordinates a Town energy conservation and greenhouse gas emission reduction program; and carries out other related tasks (Town of Amherst Conservation Department, 2005). The Town has accomplished the following open space and recreation projects since 2004:

- ❖ Agricultural Preservation Restrictions (APR's)
  - Hart-Murphy – 42.5 acres
  - North Amherst Community Farm - 34.5 acres. CPA funds
  - Pending projects

  - Cowls APR - 45 acres
  - Tietjen – 28 acres

❖ Conservation Purchases
- Simmons Property – 12.11 acres. Fee acquisition and Self-Help
- Smith Property - 3.6 aces. CPA and DCR funds, and fee acquisition
- East Leverett Road – 28.6 acres. CPA and Self-help funding

❖ Conservation Area Improvements
- Built ADA walkway at Orchard Arboretum Conservation Area
- Expanded ADA walkway at Larch Hill Conservation Area

❖ Public Parks
- Received a gift of the 3.6 acre Kendrick Park

❖ Recreation Activity
- Expansion and changes in the Town's recreation and associated educational programs through the LSSE Department.
- Increase in program opportunities for special needs populations.
- Addition of new programs for teen populations, and those of various skill levels.
- Exploration of alternative funding sources, through grants, donations, gifts, and partnerships.
- Increase in public awareness of existing leisure services, parks, and recreational facilities in Amherst.
- Accepted full management responsibility for the Cherry Hill Golf Course.
- Identification and plan for the acquisition of those areas of open space which are of value and importance to the town for active or passive recreation.

❖ Recreation Areas
- Community Field
- Renovated playground - 1996
- Underground Oil storage Tank Removed and Replaced with Environmentally - Safer Above-ground Tank – 2003
- Groff Park
  - Renovated playground -1997
  - Construction of restroom facility - 2007
- Kiwanis Park
  - New multipurpose field - 2004
  - New softball field - 2005

- Mill River Recreation Area
  - Renovated bath house - 2001
  - Renovated playground - 2003
  - Underground Oil Storage Tank Removed and Replaced with Environmentally Safer Above-ground Tank - 2003
  - Renovated basketball courts - 2004
- Plum Brook Recreation Area
  - Renovated fields - 2007
  - Added parking lot for 100 additional vehicles – 2007

❖ Other

- Expansion of the Town trail system with the addition of four miles of trails, a new trail section in the Mill River Conservation Area, improvement of a section of the Brickyard Trail for bicycle use, and extension of the Robert Frost Trail.
- Establishment of a new GIS mapping system for the Town, operated initially through the Planning Department and incorporating an aerial photography flight of the entire Town and its adjacent watershed land. Made in April 1999.
- In November, 2007 received a $ 427,000 State Self-Help grant to purchase 28.6 acres of conservation land on East Leverett Road in North Amherst.

B. Planning Process and Public Participation

This 2008 update is the distillation of several prior drafts, meetings, and surveys, dating back to 1995 with the last DCS accepted plan. Drafts and partial drafts were submitted in 2001, 2003, 2005 and 2007.

Conservation Department and LSSE staff began this update in response to Amherst's draft Master Plan process, completed in August, 2007 (Planning Amherst Together, 2007). An Open Space and Recreation Work Group provided a vital element to that process and excerpts from their discussions are incorporated into this plan. This final plan was developed by David Ziomek, Director of Conservation and Development, Linda Chalfant, LSSE Director, and Alicia Johnson, Conservation Intern. Various other staff from the Conservation and Planning Department, including Jonathan Tucker, Planning Director, and Niels LaCour, Senior Planner, also provided valuable guidance and input. Mapping assistance was provided by Michael Olkin, GIS Coordinator.

Five public meetings were held between June and November, 2007. At these meetings participants reviewed open space and recreation maps, discussed goals and objectives, and provided staff with recommendations for the plan.

Specific community groups were invited to participate including:

Agricultural Commission
Conservation Commission
LSSE Commission
Department of Public Works
Planning Department
Comprehensive Planning Committee work groups
Historical Commission
Community Preservation Act Committee
Select Board
Sports Leagues

In addition, representatives from other towns and organizations, and non-affiliated community members including: students from the colleges, parents of young children, and members of local Land Trusts, among others, were invited to attend. A draft was accepted by EOEEA in early September.

In March 2008, the draft plan was posted on the Town's web site and community members were invited to make comments on both text and maps via the web. The comment period ended in May, at which point public comments were reviewed by staff, and final editing completed. The final plan was mailed to the Department of Conservation Services in July, 2008.

A. Regional Context

(See Map 1: Regional Context)

Amherst is a unique community combining the history and traditions of a rural New England town with the urban amenities and cultural vitality of a major center for higher education. Amherst offers countless opportunities to enjoy the peace and beauty of abundant natural resources and outdoor recreational activities. From any developed center or neighborhood in Amherst, it is only a few minutes' walk to the fields or the woods.

The town comprises roughly 28 square miles on the eastern side of the Connecticut River Valley, just under 100 miles due west of Boston. Agricultural land occupies much of the northern, eastern, and southern portions of town, continuing west into the Town of Hadley and northwest into the Town of Sunderland. The Mount Holyoke Range at the south end of town makes a natural barrier between Amherst and the towns of South Hadley and Granby. The Pelham Hills rise to the east toward the Quabbin Reservation, and the Leverett-Shutesbury hills rise to the north and northeast.

The Town's water supply is from reservoirs in Shutesbury and Pelham, who share some of the surface water, and from town wells in the Lawrence Swamp Aquifer in Belchertown and South Amherst. Amherst works closely with those towns in jointly protecting both surface and underground supplies.

Amherst is currently both a college community and an agricultural town, and has a history of small-scale mercantile and industrial activity. From the colonial origins of the town to the founding of the Massachusetts Agricultural College in 1863 (later Massachusetts State College and then the University of Massachusetts), agriculture has been an important element in shaping the community's economic and landscape character. The University, Amherst College, and Hampshire College provide much of the employment in town and occupy 30% of the land base. Some of the recent residential development in town serves new University expansion as well as employees of the U.S. Fish and Wildlife Service in nearby Hadley.

Amherst's extensively-preserved land base has a regional significance well beyond town lines, given the abundance of agricultural land, trail connections, wildlife corridors, watershed areas, and recreation fields shared with neighboring communities. The need for cooperative preservation of land for open space, recreation, and agricultural activities are important to the region and the community's future. To protect and enhance their value, they require near-term action and ongoing management.

B. History of the Community

Originally, the land that would become Amherst was part of the 1661 Hadley Plantation with a northern boundary at Swampfield (Sunderland-Leverett) established in 1673. It was established and divided as Hadley's Outward Commons in 1703, with an eastern boundary established in 1713 at Equivalent Lands (Belchertown-Pelham). In 1734, it was formed as Hadley's Third Precinct and incorporated as the separate district of Amherst in 1759 with the southern boundary being established along Bay Road at the base of the Holyoke Range. At this time, the community was named by Bay Colony Governor Thomas Pownall for General Jeffery Amherst, a popular British general in the French and Indian War. Amherst began functioning as a town in 1775, but was not incorporated as an official Massachusetts town until 1786, after the Revolutionary War.

Located on the edge of the central uplands and the Connecticut River Valley, Amherst developed as an important college center and agricultural district. Distinct village centers developed during the Federal Period in North Amherst, West Amherst, East Amherst, and South Amherst, and remain important business centers today. Gristmills, sawmills, cotton and woolen mills, wood plane manufactories and numerous other small industries developed along Amherst's numerous streams and small rivers. In each center, a landmark Neo-Classical church and stately houses were constructed, many of which are well preserved today.

During the early 19th century, significant development of Amherst Center took place, including the establishment of Amherst College in 1820. Continued development of the town center occurred as railroad connections during the early industrial period created a depot district along Main Street to East Village which produced palm-leaf and felt hats, leatherboard, firearms, lamp black, paper and other goods. The town center has continued to thrive with a broad array of shops and many restaurants, cafes, and bookstores. There are a variety of housing options, extensive transit service, and a small but increasing number of technology-based companies that have developed around the University's research and development activities.

Amherst has taken a proactive role in historic and cultural preservation especially within the last 30 years. In 1972, Amherst Town Meeting established the Historical Commission to "preserve, interpret, and advocate for the historic and cultural resources of the town." In 2005 the Amherst Preservation Plan was approved, outlining specific priorities for the next ten years. In 2006 Amherst held one the top five scores in the Commonwealth Capital Program. This reflects the community's creative approach to planning and smart growth, gauging community's efforts toward the preservation of agricultural land, rural development, clustering, and zoning, among others.

Amherst town government has also taken on a central role in the protection of agricultural land and open space. Amherst has worked with adjacent towns, with significant help from state agencies, Valley Land Fund (3-county conservation land trust), The Kestrel Trust (a 9-town land trust), the Pioneer Valley Planning Commission, larger regional trusts like the American Farmland Trust, and the Silvio O. Conte National Fish and Wildlife Refuge. These efforts have been directed toward the development of a coherent valley-wide system of greenways, protected farmland, and preserved land that function as wildlife habitat, scenic overlooks, and outdoor recreation land. That system is still very much a mosaic of protected public land and vulnerable private land, with much work remaining to secure the most important farmland blocks, the Mount Holyoke Range, and important natural features like the Eastman Brook watershed, Mount Warner in Hadley, Mount Toby in Leverett and Sunderland, and the major river watersheds like that of the Mill River (Shutesbury-Leverett-Amherst-Hadley) and the Hop Brook-Fort River watershed (Belchertown-Amherst-Hadley).

C. Population Characteristics

Population Growth and Trends

(See Map 2: Environmental Justice Populations)

Because of the University and colleges, Amherst has a highly transitory population, and is a regional center for employment, services, and educational resources. In addition to the traditional level of visitation generated by the University, the colleges, and seasonal 'leaf-peeper' tourism, Amherst is also becoming an increasingly important destination for cultural and historical tourism. Attractions such as the Emily Dickinson Museum; the Museum of Natural History and Meade Art Museum at Amherst College; the Eric Carle Museum of Picture Book Art and the National Yiddish Book Center, have become increasingly popular destinations for people of all ages.

Being a regional destination needs to be seen as an opportunity as well as a burden. Amherst does not have the option of restricting the use of local land resources and facilities to Amherst residents. Planning for conservation and recreation must therefore assume that the community's resources will have to continue to serve not only the community's own needs, but those of a wider regional population. People who travel here to use Amherst's preserved land and recreational facilities spend their money here, stay overnight in Amherst lodging, eat at Amherst restaurants, spend money in Amherst's retail shops, and so forth. Amherst's preserved land and recreation resources are a

foundation for local economic development.

There is also a growing interest in health and fitness, which demographic trends will make imperative for the foreseeable future. Nationally, the post-WWII Baby Boom population cohort is aging, and their concern for their health and fitness as they age has become, and will remain, a strong trend in the general culture. In addition to the maturation of the local population, Amherst's unique blend of urban amenities/services and its historic rural character are making it a significant national destination for retirees. Demand for interaction with nature and for organized outdoor and indoor recreation are only going to increase.

The purpose of this section is not simply to restate census information, but to illustrate the unique character of Amherst, based on the influence of the colleges, the rising number of LSSE programs and sports leagues, and the growing tourism sector; and the need to acquire additional land and facilities to execute conservation and recreation priorities. Trends and statistics have been summarized and are described in the following paragraphs.

In the 2000 Census, Amherst's total population (including resident students) was estimated at 34,874, representing nearly one quarter of the Hampshire County population. Population growth in Amherst slowed substantially in the eighties from the boom of the seventies. Despite the declining growth rate however, Amherst's population in the eighties did increase at a slightly higher rate than the rest of the region.

In the seventies and eighties the majority of the population "growth" was in the 15-24 age bracket. For both 1980 and 1990, this age group represented over 50% of the population increase, due to enrollment trends in the educational institutions, which have shown steady increases until recently. Since the late eighties, however, the student population in Amherst has been gradually declining. While some of these students are year-round residents, clearly the transient student population is much more significant.

UMass student enrollment increases the total town population during the school months by as many as 30,000. Although most students leave the area, recent trends show the population decreasing not as dramatically as they once did during the summer months. An increase in student enrollment in summer sessions at the university brings many people to the area. Also, college sport camps (for ultimate, baseball, tennis, soccer, and lacrosse, especially) run by UMass and Amherst College, have gained popularity and bring young kids and families throughout the summer season.

Although recent statistics show a slight decrease in population over the last few years, the Amherst population has more than tripled since 1950 (see Table 1). Three major institutions of higher learning, the University of

Massachusetts, Amherst College, and Hampshire College have contributed significantly to the 20 to 24 year old population, comprising almost 31 % of the total (Table 2). In 2000 population counts included the University of Massachusetts at 23,570, Amherst College at 1,694, and Hampshire College at 1,139 students. The median family income in 2000 was $61,237, as compared to the county income at $57,480 (Town of Amherst Data Book, 2002).

It is important to note here that with students comprising the majority of the population during certain times of the year, it is difficult to draw a fully accurate picture of the year-round, non-student population. Therefore, population counts represent estimates.

Table 1 – Population Growth and Density in Amherst, 1950-2000

Year	Population	Population Density (persons/ sq. mile)
1950	10,856	392
1960	13,718	495
1970	26,331	951
1980	33,229	1,199
1990	35,228	1,272
2000	34,874	1,259

Table 2 - Population by Age (2000)

Age	Number	Total Percent (%)
0-4	993	2.85
5-9	1,208	3.46
10-14	1,365	3.91
15-19	7,571	21.71
20-24	10,768	30.88
25-29	1,888	5.41
30-34	1,351	3.87
35-39	1,256	3.60
40-44	1,502	4.31
45-49	1,616	4.63
50-54	1,421	4.07
55-59	953	2.73
60-64	668	1.92
65-69	590	1.69
70-74	549	1.57
75-79	474	1.36
80-84	309	0.89
85 plus	392	1.12
Total	**34,874**	**100.00**

Employment

The three colleges employ over half of the resident population of Amherst. The second highest employment is in the broad category of the arts, entertainment, recreation, accommodation, and food service sectors, employing over 12 percent of residents (see Table 3). The following excerpts from the Amherst Data Book describe employment details as of 2000:

Table 3 - Employed Persons by Industry (2000)

	Number	Percent
Agriculture, forestry, fishing, hunting, mining	66	0.4
Construction	199	1.1
Manufacturing	655	3.6
Transportation, warehousing, utilities	294	1.6
Information	668	3.6
Wholesale Trade	159	0.9
Retail trade	1,476	8.0
Finance, insurance, real estate	570	3.1
Professional, scientific, management, administrative	1,331	7.2
Educational, health, social services	9,568	51.9
Arts, entertainment, recreation, accommodation, food	2,217	12.0
Other services (except public administration	830	4.5
Public Administration	400	2.2
TOTAL	**18,433**	**100.0**

A further breakdown including the largest employers in Amherst in 2000 were:

University of Massachusetts	7,740*
Amherst School District	814 (2001)
Amherst College	746
Town of Amherst	560
Hampshire College	430
Center for Extended Care	180
Big Y Supermarket	160
National Evaluation Systems	150
Amherst Medical	140
Atkins Country Farm Market	120
Amherst Post Office	70

* Includes part-time graduate student employees.

Open Space and Recreation Trends

The increase in users of conservation, recreation and open space areas creates both challenges and opportunities for residents and town staff alike. For instance, over the last five years a steady increase in dog ownership (as seen in license numbers), hiking, mountain biking, and cross country skiing, has resulted in an increased use of hiking trails, parks, and recreation areas. Use of hiking trails and recreation areas in general has also steadily increased, based on observations by conservation staff. Trails surrounding Puffer's Pond, Amethyst Brook, Wentworth Farm, and the Hitchcock Center for the Environment and Larch Hill, especially, are heavily used. As a result, all of these areas are in need of frequent maintenance, many times exhausting town conservation personnel and material resources, and taking time and funding away from other projects and needs.

The town is also experiencing a shrinking supply of playing fields. The University of Massachusetts and the two local colleges have large land holdings and many high quality recreational facilities. The University has generously made available its facilities over the years, particularly their playing fields. However, in the last 10 years, these spaces have been reduced dramatically as a result of new construction and the changing needs of University programs. Formerly widely used recreational fields have become building sites and specialized varsity facilities with limited availability to the general public. So while the interest in using University and College land has increased, priorities on the campus continue to change and will likely not include continuing use by town residents. This increased interest in recreation has generated conflicts, as issues of field and facility usage have increased. Lack of space for field-based sports, specifically, has caused tremendous strain and frustration on sports teams and organizers since current facilities cannot support demand. Recent changes in the popularity of certain sports such as ultimate, lacrosse, and cricket, to name a few, has created more competition for playing fields throughout town.

The Amherst School Department and the Town share playing fields, and it should be noted that the School Department has fewer fields than it needs in order to accommodate its own varsity sports programs. The Town's best field, Community Field, is only available for public use when the high school varsity baseball, softball and football teams are not using it for games or practices. LSSE does not control the schedule for the School fields and therefore uses them only when they are not used for school sports, renovations or are resting to allow grass to recover.

Amherst remains an attractive community in which to live and raise a family, and in which to spend an engaged and interested maturity. Increased student enrollment at UMass, in the past three years, has also brought additional 18-24 year old students to town requiring more services and facilities. Young

farmers looking to purchase agricultural land are also attracted to this area as the appeal of organic farming and products has increased within the valley. Several developments currently in the planning stages are marketed for independent retirees and others over 55.

D. Growth and Development Patterns

Patterns and Trends

In the early 19th century, six village centers gradually developed in the Amherst area through the establishment of the land grant Massachusetts Agricultural College. As 1960 approached, growth began to accelerate due to the rapid expansion of the University of Massachusetts and the growth of Amherst College and Hampshire College.

There have been several waves of development, each about evenly divided between standard frontage lots and actual subdivisions and apartment complexes. This latter growth has occurred on outlying former farm land overgrown into second growth woodland. Many of the boundary areas between former village centers and open land have been blurred by frontage lot development. In an effort to preserve some of the scenic and essential qualities of Amherst's landscape and farming community, an active acquisition program and aggressive zoning restrictions have been pursued with the goal of preserving valuable open space and farmland.

In 2002 the town funded a Build-Out and Growth Study, carried out by AGI and Philip B. Herr & Associates in conjunction with the Amherst Planning Department. In 2000, the Town had about 9,400 dwelling units. The study concluded that current zoning and land use constraints would allow the addition of about 3,600 dwelling units to that total, an addition of about 38 percent. That could mean the addition of 8,000 residents, bringing the Town's population to about 43,000. "That potential includes some amount of redevelopment of existing houses to accommodate additional units as zoning allows, but does not include building where prohibited by environmental rules, and includes only limited development on lands owned by the Town's educational institutions. It reflects a continuation of open space protection at about the rate experienced over recent decades." (Build-Out and Growth Study, 2002).

The Study continues:

"Build-out to the full estimated land capacity … (would bring) comparable increases in all the impacts of development, including both economic support

and demands on services and resources. Some impacts, such as those on community character, would depend upon just how those additional 3,600 units are located, whether continuing recent trends, focusing on a strong center, or forming new villages at some number of locations. In exploring those pattern choices it became clear that their feasible differences were rather small if 3,600 units were to be accommodated, but would be more substantial if that added number were reduced to, say, only half that increase, or 1,800 added housing units. That might be accomplished through some combination of zoning or other regulations and deeded protections such as through expanded acquisition for open space."

The town has been proactive in planning and acquiring lands for conservation and agriculture protection. The Mt. Holyoke Range State Park encompasses over 3,000 acres of land, and 1,842 acres of farmland holds development rights in the form of APR's. The town also maintains 1,965 acres of conservation land, over 40 open fields, and 80 miles of foot trails. The conservation department's forest management program includes 2,500 acres of Town watershed land in Shutesbury, Pelham, Belchertown, and Amherst (Town of Amherst Conservation Department, 2005). Conversely, acquisition of any new Town recreation land has not occurred since 1972, with the purchase of what is now the Mill River Recreation Area in North Amherst.

Infrastructure

Transportation Systems

The location of Amherst and the existing infrastructure make the town accessible and easy to navigate by highway, bus, and rail. The intersection of Route 9 (spanning the full length of the state from east to west) and Route 116 (running north-south) is located in the center of town. In addition, a short drive from the center of town, Route 91 provides direct access to Hartford, Connecticut to the south and Brattleboro, Vermont to the north. The Massachusetts Turnpike can be easily accessed, connecting people to Boston to the east and Albany, New York, to the west.

Amherst is a member of the Pioneer Valley Transit Authority (PVTA), which provides year round bus services throughout the community and to abutting towns of Sunderland, Northampton, and Belchertown. Most routes on this extensive system are fare-free and subsidized by the Federal Government, the Town of Amherst, area colleges, and a few private individuals and businesses. The private Peter Pan Bus Line provides linkages to Springfield, Boston and other major cities. Amtrak also makes a daily stop in Amherst on its passenger service route between Montreal and Washington, D.C. via New York City (Town of Amherst Community

Profile, 2007).

The Amherst community and surrounding towns are also home to an active cycling community. Many roads offer bicycle lanes, allowing for non-motorized traffic. The Norwottuck Rail Trail, under the administration of the Massachusetts Department of Conservation and Recreation, is a popular commuter and recreational bicycling route that provides a direct link across the Connecticut River between Amherst, Hadley, and Northampton.

Water Supply Systems

The Town water supply system currently has seven sources that include the Atkins Reservoir in Shutesbury and Amherst, the Pelham Reservoirs (Hills, Hawley, and Intake), the South Amherst Wells (#1 & #2), The Brown Well (#3) in Belchertown, the Lawrence Swamp Well (#4) and the Bay Road Well (#5) in South Amherst. Both surface water supplies, Atkins and Pelham, and Wells 1, 2 & 3 are used year round to satisfy the required demands. These five sources supply approximately 90% of the total water produced. About 98 percent of Amherst homes are served by the water supply system; the roughly 160 units on individual wells are located in the Flat Hills-High Point Drive section of town in northeastern Amherst. Wells #4 and #5 operate during high demand periods and summer months when the reservoirs are low.

The average daily water consumption for the year 2007 was 3.248 million gallons, with a peak demand of 4.364 million gallons on September 4, 2007. Water consumption has dropped measurably in the past few years due to a successful water conservation efforts at the University, reducing the average daily demand of 3.7 mgd in 2000.

Based on projected population increases, peak daily water consumption will exceed the available limit in the year 2030. As confirmed by Tighe and Bond Engineering consultants, "it appears obvious that long-term needs of the Town may one day exceed the total of all available and now undeveloped safe yields located within the Town boundaries, and outside sources may be required." Recent water conservation measures undertaken by UMass may extend this, but the Conservation Commission actively supports appropriate measures that will protect both underground aquifers and their recharge areas, and above-ground reservoirs and their watersheds. For both of those, the Town will need to continue cooperation and assistance with neighboring towns, including Belchertown, Pelham, Shutesbury and Hadley, as the Town's deep and surficial water supplies transcend town boundaries (Town of Amherst Draft OSRP, 1995).

Sewer Service

As of 2000, 8,127 dwelling units were served by the Town's sewage disposal system. About 1,300 units were on private septic systems. As of 2003, the town was beginning the process of preparing a long-range sewer facilities plan that would put in priority all future sewer extensions, taking into account the incidence of septic system failure in target areas not sewered. Principally, the Bay Road-Hulst Road-Elf Hill area and the Flat Hills-High Point Drive area; the land use implications of sewer extensions, including the degree of threat to prime open space or farmland possibly brought about by sewer extensions (in consultation with the Conservation Commission and the Agricultural Commission); the physical difficulties of extending sewer lines in each unsewered area; and the cost of the proposed extensions.

Long-Term Development Patterns

Amherst is nearing the completion of a multi-year master planning effort, following which it is anticipated that the community's growth management regulations (zoning, subdivision regulation, local health and environmental regulations, etc.) will begin to undergo substantial change. It is likely that those regulations will result in a significant reinforcement of Amherst's traditional New England development pattern, especially in terms of open space and recreation, and will reinforce and improve the ways in which the community directs new development into existing centers and protects and enhances these important outlying resources.

Amherst has in place an array of land use controls to protect critical resource areas and mitigate growth (See Map 3: Zoning). They include:

Aquifer and Watershed Protection Zoning. The Aquifer Recharge Protection (ARP) and Watershed Protection (WP) overlay zoning districts regulate the land use development that can occur in areas identified as critical to the protection of public water supplies (surface reservoirs and wells). In addition to the regulation of potentially polluting land uses, these districts require that all residential subdivision development be clustered to reduce the sprawl and impact of residential units. Within the ARP District, all undeveloped parcels over 60,000 sq. ft. in area were rezoned some years ago to Low Density Residence (R-LD) to decrease potential future density.

Farmland Conservation Zoning. The Farmland Conservation (FC) overlay district regulates the land use development that can occur within areas identified as critical farmland because of soils and occurrence within significant farmland blocks. In addition to the regulation of potentially conflicting land uses, this district requires that residential subdivision

development be clustered to reduce the sprawl and impact of residential units. Further the cluster dimensional requirements for clusters in the FP District are more stringent than for clusters in other zoning districts, resulting in the creation of a greater amount of permanent open space set aside for farming use.

Phased Growth. Two provisions of Article 14, Phased Growth, of the Amherst Zoning Bylaw help to preserve open space: (1) it establishes a cap of no more than 250 residential building permits to be issued over any two-year period, calculated on a running daily average (this also allows the Town's infrastructure to keep pace with new development); and (2) it phases subdivision development, limiting the number of residential units to be built in any given year. It accomplishes this by establishing a base rate of units per year that can then be altered (speeded up or slowed down), by the land use permitting board, depending on how well the development meets the Town's objectives

Those objectives are set out in a point system, which the land use permitting board uses to determine how well the development encourages the preservation of open space, the protection and retention of farmland, low density over the aquifer areas, the use of clustering, the use of Planned Unit Residential Developments (PURDs), preservation of natural resources and views, and the use of site design which incorporates and protects natural features.

As a result of a recent court case which found regulatory "growth restraints" to be unconstitutional, a sunset of November 2009 was established for the Phased Growth provisions of Amherst's zoning. Under the master plan, new regulations will be developed to replace the function that phased growth serves.

Village Centers. The Zoning Bylaw also makes it easier for new development to occur in existing established village centers, nearer to services and infrastructure. Two districts, the Village Center Business (B-VC) and Village Center Residence (R-VC) districts, allow for a compatible mix of residential and commercial uses, and higher densities of those uses. That takes some development pressure of remaining open, outlying lands.

Flood-Prone Conservancy. The Flood-Prone Conservancy (FPC) District includes both 100-year floodplain areas and adjacent banks, slopes, and associated wet meadows. It is essentially a no-build zone, and serves to protect greenbelts along the rivers and streams in Amherst.

Table 4 – Approved Subdivision Activity – 1985 to 2007

Subdivision Name	Number of Units	Permit Year	Comments
Hampshire Village	180	1985	completed
Harvest Acres, E.Hadley Rd	22	1986	completed
Misty Meadows, Stanley St	31	1987	nearly complete – 2 affordable
Amherst Woods Phase IV	45	1987	completed
Whitman Hill, Strong St	13	1988	
Arbor Way, North East St	10	1988	completed
Hedgerow Lane, No.East St	19	1988	completed
Greenleaves, Route 9	335	1988	under construction
Eastwood G, Blackberry Ln	7	1988	
Pine Woods, off Old Farm Rd	20	1989	
Wentworth Meadows, Old Farm Rd	14	1988	never built
Hop Brook Meadows	31	1989	under construction, nearly done
White Pine Woods, Old Farm Rd	5	1989	
Amherst Fields, S.East St	50	1989	not built – tied up in court
Amherst Hills, Wildflower Dr	77	1989	construction started 2003
Hawley Meadows, E. Pleasant	31	1989	completed
Outer Commons, Amity St	18	1989	completed
Canterbury Farms, Bay Rd	15	1990	completed
Market Hill Rd	7	1991	completed
Swallow Farms, S. East St	6	1991	completed
High Point Drive	8	1992	completed
Farm Hills, Station Rd	6	1993	completed

Pine Meadow, Pine St	14	1993	completed
East Woods, Wildflower Dr	43	1996	under construction
Sunwood Pasture, S. East St	6	1998	under construction
Poet's Corner, Pelham Road	14	2000	under construction
Dayton Estates, Harkness Rd	6	2000	under construction
Barkowski Meadows, E. Pleasant	17	2001	under construction
Owen Farm, Cottage St	6	2002	under construction
Palley Village, Old Belchertown Rd	12	2004	
Moody Fields, Snell St	7	2004	
Haskins View, E. Leverett Rd	26	2005	plan denied
Lawrence Circle, Owen Dr	6	2005	
Amherst Enterprise Park, Meadow St	6	2006	light industrial office park
Simmons Cluster, Bay Rd	8	2007	
Strawberry Field, S. East St	10	2007	
Apple Brook Cluster, West St	8	2007	
Total units	**1,139**		

Table 5 – The number of single and multi-family dwelling permits issued in calendar years 1987-2007:

Year	Single Family	Multi-Family (Units)
1987	80	
1988	55	
1989	53	
1990	25	
1991	24	
1992	36	
1993	51	152
1994	44	4
1995	38	8
1996	39	10
1997	32	78
1998	24	10
1999	29	0
2000	37	12
2001	36	0
2002	36	0
2003	32	61
2004	29	
2005	28	39
2006	16	43
2007	7	4
Total	751	274

The majority of remaining open space in Amherst is now either protected with land use controls or environmental protection regulations, or is owned in whole or in part by the Town, the State (numerous Agricultural Preservation Restrictions, park lands along the Mt. Holyoke Range, University of Massachusetts property) or Amherst or Hampshire Colleges. Remaining unprotected open space could experience some infill development, and the relative priority of these areas is being examined under this plan.

The result of continued development under the current zoning will be an increase in density in and around existing developed areas, especially the Town Center and outlying older village centers. This is in keeping with several decades of community planning intent—to the extent possible, to maintain Amherst's historical New England pattern of densely settled village centers separated by open farmland and woods (Amherst Master Plan, 2007).

As this section makes clear, demand for interaction with nature and for

organized outdoor and indoor recreation in Amherst will inevitably increase. With this increased in demand and use, more strain will be placed on existing resources. Recreation facilities will need more frequent maintenance, improvement, expansion and replacement. Trail systems, conservation areas, river and stream corridors, and sensitive ecological areas will feel greater impacts from overuse. Conflicts between different user groups will increase.

To meet local and regional needs, and to protect and sustain Amherst's open space and recreation resources in the face of increasing levels of demand and use, it is imperative that Amherst invest in the improvements, protections, maintenance, and ongoing management that will allow these critical local resources to be sustainable and to endure into the future.

A. Geology, Soils, and Topography

The United States Soil Conservation Service has organized soils surveyed in Amherst into five different soil associations, each has a distinctive pattern of soils, topographic relief, and drainage. They are categorized as follows (See Map 4: Geology, Soils and Topography):

North Amherst - Soils in the north section of town fall primarily into three associations: Gloucester-Montauk-Paxton association, Hinkley-Merrimac-Windsor association, and Amostown-Scitico-Boxford association. The Gloucester association consists of low hills and ridges with rolling to steep topography. The soil substrate has been formed from glacial till, is sandy and loamy and varies from excessively well drained to well drained, and is able to support forest growth. The main limitations for development and standard farming practices are stones on the surface, slope and slow permeability.

The Hinkley association consists of soils that are typically excessively drained, sandy and loamy soils formed in outwash deposits. Topography ranges from rolling broad areas to narrow terraces. Many areas are dissected by drainage ways that vary from rolling to steep. Soils in this association on minimal slopes are subject to pressure from development because of their permeability. The soils are less than ideal for standard farming practices because of their vulnerability to drought.

Soils in the area west of Rte 116 in North Amherst have been put almost entirely into farming use even though this area is primarily made up of the Amostown soil association and considered to be less than productive for farming because of wetness and slow permeability. This same quality also tends to offer some protection from commercial or residential development. The soils are moderately well drained to poorly drained formed in outwash or lacustrine sediments.

South Amherst - The soil associations in South Amherst fall into the Gloucester and Hinkley groups found in the central and northern parts of town and the soil association Rock Outcrop-Narragansett-Holyoke association of the Holyoke Range. The steep slopes of the Holyoke Range with bedrock, rock outcroppings, and massive ridges, have made development more limited.

The Natural Resources Conservation Service has designated two categories of agriculturally important soils that occur in Amherst. The first, “prime farmland” with soils of national importance, includes land “best suited to and available for producing food, feed, forage, and fiber… it has the soil quality, growing season, and moisture supply needed to produce sustained high yields of crops economically when treated and managed, including water management, according to current farming methods” (Natural Resource

Conservation Service; and Town of Amherst Draft, OSRP, 1995). There are 6,185 acres of this land in Amherst.

Farmland of state-wide or local importance in Massachusetts includes important farm soils that fall short of the requirements of prime farmland. There are 3,429 acres of land in this soil category. The correlation between prime agricultural soils and present active farming in Amherst is not strong. Location, ownership, and past development trends have probably been at least as important as soils in influencing the location of farm operations. Housing construction in Amherst has frequently followed the regional pattern of locating in accessible, easily developed areas, with the result that some of the largest sections of prime soils have been converted to virtually permanent non-farm use.

B. Landscape Character (See Map 5: Scenic Resources & Unique Features)

Amherst is predominantly a residential community lying on the Connecticut River Valley plateau with the Holyoke Range rising dramatically against the southern skyline. The Massachusetts Scenic Landscape Inventory describes the surrounding area as follows, "The Pioneer Valley covers the largest area of relatively unspoiled scenery in the Commonwealth. The valley contains large expanses of flat farmland, dotted with old tobacco barns in an east-west orientation. The steep-sided hills, such as North and South Sugarloaf mountains, Mount Toby, Mount Warner, and the Mt. Holyoke Range, all afford impressive views of this productive landscape from above. This area probably contains more vestiges of the 18th century landscape than anywhere else in the Commonwealth." The Amherst area and surrounding communities are still fortunate to have remained relatively unspoiled and rolling farmland still in production contributes a great deal to its scenic qualities.

The Mt. Holyoke Range runs east-west along the southern border of Amherst, making a natural barrier between the towns of Granby and South Hadley. Dating from the earliest settlements, this region was used for woodlots and pastures. Now it is mostly wooded and offers thickets, streams, ponds and wetlands. The northern slopes offer exceptional views of the Connecticut River Valley, the Mt. Tom Range, and the villages of Amherst, Northampton, and Easthampton. Wildlife is also abundant, with black bear, deer, fox, coyote, bobcat, moose, fishers, copperheads, turkey, grouse and migratory birds. This is a popular site of yearly hawk migrations, with hundreds making their way to southerly wintering grounds. This area is also prime for both passive and active outdoor recreation, "offering hiking, walking, viewing vistas, cross-country skiing, mountain biking, snowmobiling, horseback riding and hunting" (Department of Conservation and Recreation, 2007).

Puffer's Pond, located in the northern section of town, is a popular destination for many recreationists, with a swimming beach, fishing, and a web of hiking trails. This region is part of a wildlife corridor continuing north and east through the town of Leverett. The Mill and Fort Rivers flow east west through the north and south of town, respectively. Lawrence Swamp, located in the southeastern corner of town, is an area rich in biodiversity. This area contains grassy meadows, ponds, open fields and, stands of mixed hardwoods and wetland vegetation. These corridors are all excellent locations for wildlife viewing and essential for the survival of species throughout the region, a function they have served since before European contact and settlement.

Development in any of these locations would cause adverse affects to wildlife populations already threatened by loss of habitat and habitat fragmentation. Key water resources would also be diminished, whereby decreasing the Town's water supply. Careful planning has created and maintained beautiful viewsheds and open space throughout town. Increased development would cause a decrease in property values, tourism, and overall scenic value of town. Much of the open space is protected conservation land and frequented by recreationists, pet owners, families, and visitors to Amherst.

C. Water Resources (See Map 6: Water Resources)

Watersheds and Aquifer Recharge Areas

Since 1940, the Town of Amherst has maintained significant watershed forest holdings to protect its reservoirs and underground water supplies. Watershed holdings total 2,662 acres, with approximately 690 acres in Shutesbury, 1,537 acres in Pelham, 140 acres in Belchertown, and 300 acres in the Lawrence Swamp in South Amherst. For many years the watershed forest has been under active management for water production, revenue from wood sales, and improvement of timber stands and wildlife habitat. Overall, the Pelham watershed totals approximately 3,950 acres of Town and private land, and drains into three small reservoirs with a combined surface area of about 18 acres. The 3,650-acre Shutesbury watershed feeds Atkins Reservoir, with a 51.5-acre surface area.

In 1941, the Town purchased the Amherst Water Company real estate, which included four reservoirs and considerable acreage in Pelham and Shutesbury, with additional parcels added in succeeding years. The Town now owns approximately one third of the 7,600 acres of land that drain water into the

reservoirs, and hopes to increase that percentage when necessary to prevent development that might have a negative impact on the water supply.

Surface Water

The Mill River area in north Amherst runs through a natural greenbelt southwest to Hadley and the Connecticut River. Much of the flood plain is protected from development by FPC zoning restrictions, the Town Wetlands Protection by-law, and the Massachusetts Wetlands Protection Act. Active land acquisition and trail easements in this area provide extensive space for outdoor recreation while protecting wildlife habitat, water quality, and scenic beauty.

The Fort River is a primary river that runs through Amherst. Sections of the river are included on the Estimated Habitat Map of Endangered and Rare Wetland Wildlife Species published by the Massachusetts Natural Heritage Program. In response to this inclusion, proposed developments in east Amherst near the Fort River have come under more detailed review by the Conservation Commission and plans to acquire conservation land in this area have been successful. Efforts to protect more land in this area are ongoing.

Wetlands

Like many other towns in Massachusetts, Amherst lost many of its wetlands during the 19th century when dredging and ditching to drain land and 'improve' it for agriculture was common practice. Today, the Lawrence Swamp in South Amherst is the largest remaining wetland complex in town. Remnant stands of red maple swamp in the Podick Conservation Area hint at what the Great Swamp in North Amherst and Hadley may once have been like—covering an area including much of the UMass campus westerly along the Mill River and north into Sunderland. Much of the remaining wetlands today are found in the floodplains of the Fort River and smaller tributaries like the Plum and Hop Brooks.

D. Vegetation

General Inventory

Amherst is fortunate to have a broad mixture of vegetation types springing from its variety of topography, geology, soils, and land use history. Forest

types include transition hardwoods, central or ridgetop hardwoods, white pine, swamp hardwoods, flood plain forest, and early successional types. Non-forest cover types in Amherst include old field, shrub swamp, rock balds, open marsh, playing fields, abandoned gravel pits, the old town landfill, and various active agricultural types. Subdivisions and other residential and commercial development have fragmented some of the large contiguous blocks of forest and agricultural land; those that remain are described below.

Forest Land

The largest blocks of continuous forest are as follows: (1) the north slopes of the Holyoke Range in extreme southern Amherst (more than 1,000 acres adjoining an additional 5,000 acres in the three adjacent towns the Range occupies; (2) the Lawrence Swamp (1,000 acres interspersed with scattered agricultural fields, marsh and open water); (3) the Mt. Boreas-Flat Hills area, with about 400 acres partially impacted by residential development along Flat Hills Road and Market Hill Road, and in the High Point Drive subdivision; and (4) Pulpit Hill, with some 300 acres between the New England Central Railroad and Route 63 consisting of about 50 percent open agricultural land and about 50 percent forested land and Christmas tree plantations. Smaller forested blocks are scattered throughout town.

Agricultural Land

Agricultural Preservation Restrictions (APR's) currently protect 1,841 acres within Amherst, just over 10% of the total land area. The largest blocks of working farmland are located within the northwest corner of town, west of Rt. 116 and north of Meadow Street; and east of South East and North East Streets, between Station Road and Shutesbury Road. Both Amherst and Hampshire Colleges hold large tracts of land in central and southern Amherst (respectively), offering areas of grasslands and farmland, vitally important for wildlife populations.

Wetland Vegetation

Wetland resources identified in the Town of Amherst Wetlands Protection Bylaw consist of freshwater wetlands, marshes, wet meadows, bogs, swamps, isolated wetlands, vernal pools, banks, reservoirs, ponds, intermittent streams and watercourses. Most of the vegetation is scrub-shrub, with open wetlands and some forest wetlands.

Rare Species (for detailed list see Appendix A)

Documented state-listed species in town include Lygodium palmatum (Hartford fern, with healthy populations at Elf Meadow Conservation Area, the Gray Farm off South East Street, the Hess Farm off North East Street, the power line that crosses College Street, and other sites); Petasites frigidus var. palmatus (sweet coltsfoot, with an outpost in the wet woods southeast of the railroad tracks on the east side of the Lawrence Swamp), and Claytonia virginica (narrow-leaved spring beauty, same general location.

Other rare and uncommon plant species include Epilobium coloratum (Haskins Meadow Conservation Area and other sites); Pogonia ophioglossoides, Calopogon pulchellus, Penstemon digitalis, Habenaria fimbriata, Platanthera lacera, P. psycodes, and Spiranthes cernua (all documented at MacLeod Field, part of the Lawrence Swamp Conservation Area); and various ferns and fern allies listed in various sites within the Lawrence Swamp.

Unique Natural Resources

Other notable vegetated areas are as follows: small areas of open marsh at Mt. Holyoke Drive, West Pomeroy Lane, Potwine Lane, the UMass Stadium (into Hadley), South East Street at Stanley Street, and others; traprock balds at the summits of Bare Mountain (South Hadley town line) and Rattlesnake Knob (Granby town line); wet meadows at Old Farm Road (Wentworth Farm Conservation Area), Station Road (MacLeod Field), with an abundance of orchids and other wet meadow herbaceous flora, Strong Street (Gulliver Meadow Conservation Area), South East Street (the Wilkie and Kentfield farms, both under APR's), West Street (land of Hampshire College), Pomeroy Lane (the Poor Estate), East Leverett Road (Haskins Meadow Conservation Area), Leverett Road (Eastman Brook Conservation Area), and others; thicket habitat at Pomeroy Lane, South Pleasant Street, Route 63 (Harris-Patteson Conservation Restriction and adjacent land of W.D.Cowls, Inc.), and Mill Lane (Amherst College land along the Fort River); juniper-cedar old fields off Route 116 (Podick Conservation Area) and in the Eastman Brook Conservation Area and surrounds; buttonbush pools and pond edges at Pomroy Pond (Old Belchertown Road), land off Old Farm Road (pools in Wentworth Meadows proposed development area), land east of East Pleasant Street south of Village Park, and West Pomeroy Lane; ponds (more than 80 ponds scattered throughout town, including Harkness Pond, Puffer's Pond, Markert's Pond, Pomroy Pond, and ponds next to Atkins Reservoir in adjacent Shutesbury); vernal pools (including important complexes in the Lawrence Swamp, the Old Farm Road area, and many other locations); and major flood plain wetlands at Hop Brook (Station Road north to South East Street), Fort

River (south of Stanley Street), and Middle Street (Plum Springs and Plum Brook north to Pomeroy Lane).

Vegetation Mapping Projects

A 1994-95 inventory of the ferns and fern allies of the Lawrence Swamp, carried out by Paul Martin Brown, formerly of the New England Wild Flower Society, in cooperation with the Hitchcock Center for the Environment and local volunteers, identified a wide range of plants present in that area. Botanical studies of the Holyoke Range and nearby sites in Sunderland and South Hadley have produced new plant listings for sites near the Robert Frost Trail, the Metacomet and Monadnock Trail, and other areas.

E. Fisheries and Wildlife

Inventory

Amherst is home to a wide variety of wildlife, of both the permanent and migratory variety. Specific mammalian species include: expanding white-tailed deer and beaver populations throughout town, coyotes denning in the northern sections of town, fluctuating populations of red and gray fox, bobcats, increased black bear denning in east Amherst, fishers in east and south Amherst, and otters along the Norwottuck Rail Trail. The moose population is expanding in nearby communities to the north, but resident and reproducing moose have not yet been documented in Amherst.

Many waterfowl species can also be found within all of the water features in town including wood ducks, hooded mergansers, herons, and egrets. Amherst does not yet have a resident population of Canada geese, though such populations are found in neighboring communities. Many species of hawks migrate through the area in spring and fall while breeding is limited to the following: red-tailed, american kestrel, goshawk, coopers, and red-shouldered. Areas along the Holyoke Rage and foothills are great places to locate migratory raptors flying to southern nesting grounds in the fall months. Migratory songbirds are routinely abundant in spring and fall at stopover areas throughout the Holyoke Range and foothills. Owls, including the great horned, barred, screech, and saw-whet, occupy most or all available habitats in town. Field-nesting birds (eastern meadowlarks, bobolinks, Savannah sparrows, and others) regularly breed in conservation and APR fields. Woodcock are abundant in wet early successional areas and during migration, and snipe can be found in a few locations. Ruffed grouse populations have dwindled along with their preferred habitat, but can still be found in limited

successional areas. Wild turkey populations have expanded dramatically and resident flocks can be found throughout Amherst. Rails can be found in marshes, and various other uncommon bird species regularly occur in town including the Cooper's hawk, worm-eating warblers, and red-shouldered hawks.

Fisheries include a few remaining native brook trout populations in Adams, Eastman and Cushman Brooks, as well as brooks on the Amherst watershed in Pelham and Shutesbury. A wide range of warmwater fish species are found in the lower reaches of the Mill and Fort River drainage. Lamprey and American Eels run up the Fort River to spawn. Amphibians and reptiles have been catalogued at various locations. Species found include Box Turtle, Wood Turtle, and Spotted Turtle. Timber rattlesnakes have not been documented along the Mt. Holyoke Range in many years but Copperheads are still found with some regularity. Spotted salamander populations have been documented at several locations in town, as well.

Vernal Pools

As of April, 2007 The Natural Heritage and Endangered Species Program had identified 11 certified vernal pools in Amherst (Mass Wildlife, Natural Heritage and Endangered Species Program, 2007). Many more vernal pools exist in town but have yet to be officially certified by the Commonwealth. These habitats are protected under the Massachusetts Wetlands Protection Act, as well as other federal and state regulations. Under this Act, only vernal pools located within a wetland can be granted certification. In response to this, under the Town of Amherst Wetland Protection Bylaw, a 200 ft. buffer is offered to pools located in upland areas and those outside a wetland.

Corridors for Wildlife Migration

Principal connections among conservation areas and other protected land include the following:

- The Mt. Holyoke Range and its linkages to the Connecticut River, Lawrence Swamp, and Plum Brook, and the Quabbin Reservoir to the east.
- The Lawrence Swamp with connections northward to Hop Brook and the Fort River north of Station Road and to South Amherst farmland via the Norwottuck Rail Trail.
- The University Drive area and linkages westward to the UMass

Hadley Farm, Mt. Warner, Lake Warner, and the Connecticut River via lower Mill River.

- The Amethyst Brook area with linkages eastward to the Amherst watershed in Pelham, the University's Cadwell Forest, and the Quabbin Reservoir.
- The Mill River-Puffer's Pond area with connections northeasterly along Cushman Brook into Leverett and north over Pulpit Hill and up the Eastman Brook watershed to the Leverett Knobs, Mt. Toby, and the Montague Wildlife Corridor/
- The CVRR Corridor from Main Street north through the Wildwood and Eastman Brook areas into Leverett.
- The Adams Brook area north from Pelham Road along the North East Street farms to Atkins Reservoir via the Banfield farm and on to Brushy Mountain in Leverett.

Rare, Threatened, and Endangered Species

The following data were extracted from the Natural Heritage and Endangered Species Program database, and compiled in August, 2006 (MassWildlife, 2007). This list is specific to Amherst and a similar list for flora can be found in the Appendix.

Massachusetts Endangered Species Act (MESA) and Federal Status Rare Species
E= Endangered T=Threatened SC=Special Concern

Table 6 – The number of single and multi-family dwelling permits issued in calendar years 1987-2007

Group	Scientific Name	Common Name	MESA Status
Amphibian	Ambystoma laterale	Blue-spotted Salamander	SC
Amphibian	Hemidactylium scutatum	Four-toed Salamander	SC
ARADB02010	Carphophis amoenus	Eastern Worm Snake	T
Beetle	Cicindela purpurea	Purple Tiger Beetle	SC
Bird	Podilymbus podiceps	Pied-billed Grebe	E
Bird	Circus cyaneus	Northern Harrier	T

Bird	Accipiter striatus	Sharp-shinned Hawk	SC
Bird	Falco perefrinus	Peregrine Falcon	E
Bird	Bartramia longicauda	Upland Sandpiper	E
Bird	Pooecetes gramineus	Vesper Sparrow	T
Bird	Ammodramus savannarum	Grasshopper Sparrow	T
Bird	Ammodramus henslowii	Henslow's Sparrow	E
Butterfly/ Moth	Apodrepanulatrix liberaria	New Jersey Tea Inchworm	E
Butterfly/ Moth	Cingilia catenaria	Chain Dot Geometer	SC
Butterfly/ Moth	Eacles imperialis	Imperial Moth	T
Dragonfly/ Damselfly	Gomphus ventricosus	Skillet Clubtail	SC
Dragonfly/ Damselfly	Ophiogomphus asperses	Brook Snaketail	SC
Dragonfly/ Damselfly	Stylurus amnicola	Riverine Clubtail	E
Dragonfly/ Damselfly	Stylurus scudderi	Zebra Clubtail	E
Fish	Notropis bifrenatus	Bridle Shiner	SC
Mussel	Alasmidonta heterodon	Dwarf Wedgemussel	E
Mussel	Alasmidonta undulate	Triangle Floater	SC
Mussel	Ligumia nasuta	Eastern Pondmussel	SC
Mussel	Strophitus undulates	Creeper	SC
Reptile	Glyptemys insculpta	Wood Turtle	SC
Reptile	Terrapene Carolina	Eastern Box Turtle	SC

F. Scenic Resources and Unique Environments

Scenic landscapes (See Map 5: Scenic Resources & Unique Features)

WILDLIFE:

• Lawrence Swamp	Popular birding and wildlife viewing area
• Puffer's Pond to Leverett Wildlife Corridor	Wildlife migration route
• Amherst College Wildlife Sanctuary and Grasslands	Popular birding and wildlife viewing area, trail networks

STREAM CORRIDORS:

• Fort River Corridor	
• Mill River Corridor	
• Amethyst Brook Corridor	Tributary to Fort River.
• Hop Brook corridor	
• Plum Brook Corridor	
• Cushman Brook Corridor	Tributary to Mill River

AGRICULTURAL LAND:

• Hampshire College Farmland	Block continues west into Hadley
• North Amherst Agricultural Block	Contiguous block of active farms – extends north into Sunderland and west into Hadley
• South East Street	Active farms to the east
• North East Street	Active farms to the east

SCENIC ROADS:

• Bay Road	Views of Holyoke Range immediately to the south
• Potwine Lane	Views of Holyoke Range to south
• Pomeroy Lane	
• Middle Street	
• Southeast and Northeast Streets	Active farms to the east with Pelham Hills beyond
• Station Road	Open fields, active farms, wetlands
• Harris Mountain Road	
• Shays Street	
• Mill Lane	
• Snell Street	Historic homes
• Amity Street	Historic homes
• Strong Street	Active farms, view of Pelham hills
• East Pleasant Street	Historic homes
• Henry Street	Salamander tunnels,
• Flat Hills Road	
• Shutesbury Road	
• Pine Street	Active farms, historic homes
• State Street	
• Pulpit Hill Road	
• Market Hill Road	Views of Pelham Hills
• Leverett and East Leverett Roads	View of Cushman brook, conservation land, open space
• Sand Hill Road	

MAJOR VIEWSHEDS:

• Bay Road	View south to Mt. Norwottuck, and north to UMass and northeast to Mt. Pollux
• Bay Road and South East Street Junction	View north to Leverett over South East Street farmland
• Station Road	View southeast to Holyoke Range
• South East Street	View east over Cowles Farm
• Pomeroy Lane	View north across Poor Estate
• West Pomeroy Lane	View north across Hickory Ridge Golf Course
• East Hadley Road	View north of the Hadley/ Amherst town line toward Norwottuck Rail Trail
• Station Road	View northeast across Sawmill Stud Farm
• South East Street	View east to Fort River-Hop Brook confluence
• Mill Lane	View north to Amherst College buildings
• Belchertown Road	View east across Maplewood Farm to Pelham Hills
• North East Street	View east across Hess and Amethyst Farms
• North East Street- Strong Street junction	Views east to Pelham Hills
• Strong Street	View north to Leverett
• North East Street	View south from north end across farmland, view west across Wysocki farm
• Flat Hills Road	View north across Ruder field at Market Hill Road

• Pine Street	View southwest across Djiekanowski and Barkowski farms
• Leverett Road	Views west across Cowls and Fletcher-Howell properties
• Route 63 Montague Road	Views east across Eastman Brook to Pulpit Hill
• Route 116 Sunderland Road at Old Sunderland Road junction	Views southwest across farmland into Hadley
• Meadow Street	View north past Auction barn, view west toward Mt. Warner

Unusual geologic features

The town lies on a valley plateau within a circle of hills. The north-south spine of hills running through the middle of Amherst are glacial drumlins that became the islands of ancient Lake Hitchcock, which was formed as glaciers receded and covered much of the region. This ancient lake bed and the floodplain of the Connecticut River provide the area with fertile farmland. The most distinguishing geological features are the Connecticut River to the west and the Holyoke Mountain Range which borders Amherst on the south and defines the skyline from many locations within the Town. Both also provide many opportunities for recreational use.

Other important geological features include the following:

- Eastern Border Fault – located in northeast Amherst. The upthrust of the eastern side of this fault has eroded over time to create the Pelham hills.
- Rattlesnake Knob and Mt. Norwottuck traprock (basalt—former volcanic) summits, Holyoke Range
- Bare Mountain summit and traprock (basalt) ledges, Holyoke Range
- Mt. Pollux summit – drumlin
- North East Street drumlin north of North East Apartments
- Mt. Boreas – bedrock summit and adjacent slopes
- Pulpit Hill ledges
- Podick glacial outwash sand plain formation

Cultural, archaeological, and historic areas

Amherst, founded in 1759, has a rich history. There are a total of nine areas designated as National Register Historic Districts and nine individual property listing, including a total of 327 structures. Amherst was the home of the 19th Century poet Emily Dickinson, one of the most recognized American poets. The Dickinson Homestead is listed as a National Historic Landmark and is owned by Amherst College. Scenic roads and historic landmarks dot the community, with the Stockbridge House, oldest home in Amherst, built in 1728, located within the University of Massachusetts campus.

Mary Lyon, founder of Mount Holyoke College in 1837, was one of the first students at Amherst Academy, and lexicographer Noah Webster and pre-eminent 20th century poet Robert Frost are among those associated with nationally-known Amherst College. Founded in 1821, Amherst College is the oldest college in western Massachusetts and one of the oldest in the country. Four of the community's National Historic Register districts are clustered near the Central Business District, with the other four located in the Village Centers outside the downtown area.

The three major areas of archaeological importance in town include the Mill River Corridor, the Fort River Corridor, and Bay Road. Although there were no permanent settlements in Amherst until the 18th Century, this region was a hunting/gathering ground for many Native American tribes for centuries. Portions of the Mill River corridor, and Bay Road in its entirety were originally part of Native American trail systems, main thoroughfares, trade and war routes linking seasonal settlements west to the Connecticut River and east to other settlements and hunting grounds.

In 1716, the Hadley settlers established a roadway system directly over these two trails. One along "the Brookfield Road" (what is now Bay Road), and another along the Mill River/Cushman Brook corridor (then called the "Nashaway" (Nashua) Path). Once these roads were established, settlers began in the 18th and 19th centuries to construct mills, especially along the Mill River. This river offered many opportunities for mills given the large drop from east to west, although a few mills were also constructed along the Fort River, through east Amherst and parts of south Amherst. Remains of some of these mills can still be found today.

Unique Environments

As of March 2007, there were no state identified Areas of Critical Environmental Concern (DCR, 2007).

G. Environmental Challenges

Invasive Species - See Section 9., this chapter.

Water quality and quantity - See Section C., p. 3, this chapter.

Road and parking lot runoff – [Is this a demonstrated point source of pollution?]

Global warming – [Cite activity by the Climate Action Task Force.]

Hazardous waste and brownfield sites

- North Amherst Center
  Development in the floodplain in North Amherst Center (a former 19th century mill village) includes uncontrolled fill and automotive-related businesses immediately adjacent to the Mill River, uses which date from the early to mid 20th century.

- Pelham Road & Fort River
  Northeast Utilities owns and is in the process of cleaning up a WWII-era coal gasification plant site adjacent to the Fort River upstream of Pelham Road.

- Amherst Depot Area
  The area surrounding the historic Amherst Depot was the site of numerous 19th and early 20th century factories and includes some older buried fuel storage tanks.

Landfills

Amherst has two closed landfills (Belchertown Road) and an active transfer station and recycling center. The older (unlined) landfill south of Belchertown Road was capped in the late 1980's and awaits further study of groundwater flows and methane containment. The site has been identified as a possible recreation area. The newer landfill was built, maintained and capped to more recent DEP standards.

Erosion

The Mill River in North Amherst and its banks are prone to seasonal and chronic erosion. Steps were taken to arrest part of this problem during the

1980's along Pine Street but additional effort will be needed to stabilize erosion at the Mill River Recreation Area and along Meadow Street and Rt. 116. The Cushman Brook along East Leverett Road is also eroding its banks as it cuts to the North.

Chronic Flooding

There are three areas in Amherst where major flooding occurs:

- Mill River/Swamp Brook confluence off Meadow Street in North Amherst
- Fort River at Hickory Ridge Country Club in South Amherst
- Fort River and Hop Brook Confluence – East of South East Street

Sedimentation

The Conservation Commission supports an aggressive program of land use planning and ongoing management to prevent possible contamination of or water losses from the Town's groundwater supplies. Along with the Town's efforts to maintain the high quality of its surface water supplies by protecting streams and watersheds from siltation and contamination, Amherst will need to give increasing attention to the protection of both quality and quantity of the water recharged into its groundwater supplies.

Development Impact

Amherst's extensive development review permitting process includes numerous regulatory steps (zoning, health, wetlands) whereby impacts on water supply and quality can be prevented or mitigated.

Ground and Surface Water Pollution

Monitoring and research in regards to pharmaceuticals in drinking water ?

Impaired Water Bodies

Amherst is fortunate to have a relative abundance of both surface and subsurface water supply. The Mill and Fort Rivers as well as their tributaries crisscross the town providing water resources for human use

and wildlife. Amherst only has a few ponds of any significant size – Puffer's, UMass Campus, Epstein's and some small old mill/farm ponds. Although the overall health of the Mill and Fort Rivers is relatively good, there is ample evidence that water quality and overall aquatic health of smaller tributaries in town suffer from increased levels of siltation. Testing conducted in 2007 of water quality in the Fort River indicated levels of phosphorus well above acceptable standards.

The public health and environmental impacts of beaver activity resulting from the current lack of viable population control alternatives includes damming and the creation of new channels, and cannot be understated.

The following bodies of water will require further study:

- Mill River below North Amherst Center- water quality and quantity
- Fort River water quality and guantity
- Puffer's Pond- siltation, Giardia, erosion, over use
- Tan Brook- water quality
- UMass Campus pond- water quality, erosion and sedimentation
- Plum Brook- siltation and water quality
- Hop Brook- siltation
- Cushman Brook in the vicinity of Haskins Meadow – beaver ponding and increased water temperature impacts on unique cold water stream habitats downstream
- Given the incentives associated with global warming, water quality may also become an issue in town. The Conservation Department is committed to researching issues related to "minimum flows" and water withdrawals on the Fort and Mill Rivers.

Invasive Exotic Species

One of the most critical environmental concerns facing the town is the abundance and spread of invasive exotic species. Exotic invasive plant species have become a serious threat to the Town's biodiversity over the past decade. In 1995, purple loosestrife was present on only two or three sites in town. There are now at least 20 documented invasion locations throughout Town, and all are growing. Many species that began their invasions and gained a foothold over the past 30 years have recently undergone tremendous population expansions.

The biological and economic cost to the Town of these invasive species is becoming evident, as their control is highly problematic. It takes practically superhuman efforts to eradicate even one alien species from a

given site, usually a matter of years of continuous efforts in the form of mowing, cutting, uprooting, and applying herbicides. In many cases, applying herbicides to cut stems is the only practically, effective way of ridding a site of a problem plant. In some cases, as with Japanese knotweed, four or more cuttings a year can deplete the plants' energy supplies and cause them to die out, but the work required is formidable. In field situations, multiple tractor mowings can weigh the competitive balance toward native grasses and forbs and away from multiflora rose, glossy buckthorn, winged euonymous, and autumn olive. But adjacent hedgerows and edges are now usually filled with the same species, which will everlastingly try to migrate and re-establish themselves in the fields.

Over the past five years the Town has carried out various efforts to try to control invasive species, in some cases on Town land, in others on private land in partnership with owners like Amherst College, farmers whose land is under APR's, and small owners interested in preserving their own natural biodiversity. Grants from the Silvio O. Conte National Fish and Wildlife Refuge have paid for projects on a variety of areas. Volunteers working in cooperation with the New England Wild Flower Society and the Conservation Department have conducted various efforts to monitor and control invasives. The Hitchcock Center, the Kestrel Trust, the Public Shade Tree Committee, and the Conservation Commission have held public forums to help acquaint the public with the problem species and with current methods by which they can attempt to control them.

Section 5. Inventory of Lands of Conservation and Recreation

Introduction

The following Section shall provide an inventory of the various protected and unprotected open lands in the Town of Amherst. This inventory seeks to identify and examine the degree of protection of a variety of private, public, and non-profit owned parcels.

The inventory is comprised of a map depicting open space parcels, a written narrative describing the general classification of open space land and a matrix of parcel specific information.

The inventory is intended to provide the reader with a general overview, in narrative form, describing the various classifications of both protected and unprotected lands in the Town of Amherst. The accompanying map has been prepared to better understand, and visualize the arrangement and the context of the open space land within the Town. Lastly, this inventory provides a detailed matrix containing parcel specific information, such as parcel ID numbers, acreage, ownership and other information as applicable.

The source of the information for the narrative, map and matrix are derived from the Town of Amherst Tax Assessment records and is imported into the Town's Geographical Information System.

For the purposes of this inventory, the types of land are discussed in terms of Private, Public and Non-Profit ownership. The primary objective is to examine the valuable open space in the Town and identify whether it is permanently protected, partially protected or not protected.

Protected Open Space

Protected open space is land set aside and permanently restricted for conservation, agriculture or passive recreation purposes. Open space land includes parcels protected from development and managed by the Conservation Commission; Town-owned parcels not intended for sale or development but managed by an organization other than the Conservation Commission; parcels owned by the State or Federal government; quasi-public; and private properties.

Town Conservation Lands - Public ownership

These areas are open lands permanently protected for a wide range of uses including active and passive recreation, aesthetics, education and

preservation of important habitats to benefit the quality of life of residents.

The Town of Amherst currently has 1,779 acres designated as Town Conservation Land.

A complete matrix of these properties is listed in Appendix I of this Plan.

Town Recreation Areas – Public ownership

These areas include more formalized land uses focused on providing the community with a range recreation uses including mixed use playing fields, swimming pools, and playgrounds. These areas often contain parking and other facilities for use by residents, non-residents and organized groups.

The Town of Amherst currently has 119.8 acres of land designated at Town Recreation Areas.

A complete matrix of these parcels is listed in Appendix ____ of this Plan.

Town Parks – Public ownership

Town parks and commons are found within the more densely settled areas of the Town. These areas are a range of formal and informal open areas which range in use and intensity of uses.

The Town of Amherst currently has ____ acres of land designated as Town Park or Common areas.

A complete matrix of these parcels is listed in Appendix ____ of this Plan.

Agricultural Preservation Restrictions (APR's) – Private ownership

The APR program allows the State, Town, or combination of the two, to purchase the development rights on farmland in order to preserve the land's use for agriculture. The owner is compensated by the difference between the full market value (development value) and the agricultural value (the current use).

The Town of Amherst currently has 1,833 acres designated in Agricultural Preservation Restrictions.

A complete matrix of these properties is listed in Appendix ___ of this Plan.

Conservation Restrictions – Private ownership

Private property is permanently protected open space if there is a conservation restriction placed on the property. These are development rights held by the State with additional restrictions held by the Town. It ensures that land will remain in its natural, open condition. This is a voluntary program entered into by landowners.

The Town of Amherst currently has 59.87 acres of land designated in Conservation Restrictions.

A complete matrix of these properties is listed in Appendix ___ of this Plan.

Unprotected Open Space

Chapter 61 land - General

Land in this classification is voluntarily committed, by the landowner, to be used temporarily for agricultural, forest or recreational use in exchange for a reduction in taxes paid to the local municipality. Parcels taxed under the Chapter 61 (Forestry), Chapter 61A (Agriculture), and 61B (Recreation) tax classification are in private ownership and are not protected open space areas. The tax classification enables the lands to be taxed at their use value rather than the full fair market value. The Town has the right of first refusal if the parcels are sold prior to the expiration of the tax abated status. Owners of land classified under Chapters 61, 61A, and 61B must notify the Town before selling or converting the land to another use. This allows the Town to protect individual open space parcels as they enter the market or become threatened by development.

The Town of Amherst currently has a total of _____ acres in the three Chapter 61 land classifications.

Chapter 61 – Private ownership

Known as the "Forestland Tax Law," Chapter 61 helps maintain open land

by providing tax benefits to maintain forests. This program is for properties of contiguous forestland of ten acres or more and is administered by the Massachusetts Department of Conservation and Recreation.

The Town of Amherst currently has 1,036.8 acres of land designated as Chapter 61 land.

A complete matrix of these parcels is listed in Appendix ___ of this Plan.

Chapter 61A – Private ownership

Chapter 61A classification is for lands used primarily for agriculture or horticulture. Land in agricultural use is defined as land primarily used in raising animals, which includes everything from cattle to bees to fur-bearing animals. Land in horticultural use is land used for growing anything from fruit to vegetables to ornamental shrubs.

The Town of Amherst currently has 1,485.1 acres of land designated as Chapter 61A land.

A complete matrix of these parcels is listed in Appendix ____ of this Plan.

Chapter 61 B – Private ownership

Chapter 61B is designed to promote conservation of open space and recreational lands. To qualify for the program, a landowner must have at least five acres retained in a substantially natural, wild, open, pastured or landscaped condition. Recreational use includes hiking, camping, golfing, horseback riding, skiing, swimming and others specified in the Chapter 61B statute.

The Town of Amherst currently has 118.1 acres of land designated as Chapter 61B land.

A complete matrix of these parcels is listed in Appendix ___ of this Plan.

Town School Property – Public ownership

The School Department manages many properties, some of which are repeated due to the multi-use of a particular field for various athletic facilities or the presence of one or more types of fields. The schools provide fields and indoor space for softball, Little League, soccer, ultimate

Frisbee, volleyball, dodge ball, and others.

The Town of Amherst currently has 108.3 acres of land designated at School property.

A complete matrix of these parcels is listed in Appendix ___ of this Plan.

Tax Exempt Property

Amherst contains 6,017.05 acres of tax exempt property (33.875 % of all land in Amherst). These parcels include non-profit organizations, private recreation land, and major institutional holdings. The tax exempt parcels are privately owned and in most cases are not protected open spaces. Many of these properties contribute to the town character and provide recreational uses.

Institutional Facilities – Private ownership

Section 6. Community Vision

A. Description of Process

To guarantee that this plan accurately reflects the needs, desires, and concerns of Amherst citizens, a series of public meetings were held throughout town between June 2007 and March 2008. During this time, presentations were made to the Agricultural Commission, Planning Board, Conservation Commission, and Leisure Services and Supplemental Education (LSSE) Commission. A workable draft of this plan was also presented to these same boards and committees in March and April 2009 at public meetings to ensure the integration of their input and that of Amherst residents.

To kick off the citizen participation component of this plan, two public meetings were held in June 2007. Specific-interest groups were invited to the meetings through a mailed invitation and email. These groups included members of the Agricultural Commission, Conservation Commission, LSSE Commission, and the Open Space and Recreation working group of the Comprehensive Planning Committee, which helped create Amherst's 2008 Draft Master Plan. Various activities designed to gather thoughts and ideas were used at these meetings, including: an exercise where participants were asked to identify priority parcels; break out groups; and question and answer sessions. Meetings were held at various locations across town as a means of attracting a wide audience. Additional priorities were gathered through discussions among town staff in the Conservation, Planning, LSSE, and Public Works departments.

The master planning process, Planning Amherst Together, completed in August 2007, provided a valuable resource as well. Many opinions and suggestions were gathered using web-based questionnaires and tools "designed to develop and carry out a public process that achieves broadly based, informed, and thoughtful consideration of the crucial issues confronting Amherst" (Master Plan, 2007). Working groups, other related public meetings, a community survey, and an open house were integral components that helped generate Amherst's 2008 Draft Master Plan. The Open Space and Recreation Working Group formed as part of Planning Amherst Together discussed current conditions and strategies necessary to achieve community-wide goals, and their comments have been incorporated into this plan.

In March 2008, as town staff completed a draft of this plan, an Open Space and Recreation Plan (OSRP) webpage was hosted on the Town's website. The OSRP webpage included the individual text sections of the report, relevant maps, and an online comment-form so that suggestions and opinions could be submitted electronically to the Conservation Department. In April 2008, the draft plan was presented to the Conservation Commission, Agricultural Commission, and Planning Board. Their comments were

incorporated into the draft text sent to the Division of Conservation Services in July 2008.

B. Statement of Open Space and Recreation Goals

Amherst attracts and retains residents who deeply value their quality of life and who have a great commitment to preserving the area's unique landscape and character. This character encompasses not only a diversity of cultural experiences, economic pursuits, and scenic beauty, but opportunities for outdoor creation and enjoying the physical side of life. It is important for many to preserve and enhance these resources for current and future residents. Given Amherst's regional appeal, it is essential to develop general open space and recreation goals to address these concerns. The goals are as follows:

- Protect farmland and prime soils by enhancing Amherst's rural character and agricultural viability.
- Focus land preservation efforts in areas identified as priority habitat, containing valuable natural resources, prime agricultural soils, watershed lands that supply Amherst's drinking water, and areas with large contiguous blocks of undeveloped open space.
- Provide and develop multi-use and multi-generational recreational opportunities that bring townspeople together.
- Expand and connect existing preserved land and trail system to make a greenway network throughout town.
- Develop a variety of land protection approaches that balance development regulations, protection of natural resources and wildlife habitat, and the need for recreational space.
- Develop partnerships with organizations to protect, manage and promote the town's natural attractions that are the basis for tourism and the cultural economy.

A. Summary of Resource Protection Needs

The Amherst community has expressed a great commitment to preserving the area's unique landscape and character. Since 1963, the Town has been acquiring land for conservation. Today a total of 4,849.5 acres, or 27.3 percent of the Town of Amherst's total land area, is permanently protected land. The amount of preserved land in Amherst belies the vulnerability of undeveloped parcels, especially when a 2002 build out analysis determined that a significant amount of new homes would be constructed outside the existing village centers. The Town is committed to protecting more land, which will help to preserve the community's open space and recreational opportunities even as new growth occurs.

Establishing strategies and implementation methods to protect Amherst's valuable natural resources are often coupled with projects that seek to accommodate the increasing need for more recreational facilities and opportunities. The Conservation Commission, with help from various town staff and departments, and through a valuable public input process, has determined the following to be Amherst's most urgent resource protection needs:

- To support the local farming community;
- To expand large blocks of existing preserved lands;
- To make an interconnected trail system through innovative land use policies and zoning;
- To acquire property for the protection of wetlands, the Town's drinking water supply, and to provide areas for the flood storage; and
- To mange Town land and facilities to maximize their value for wildlife habitat, recreation, scenery, natural resource preservation, and the enhancement of the Town's appearance.

Local Farming

Through community surveys conducted during the development of the Open Space and Recreation Plan, and through citizen participation during the recent Master Planning process, it became apparent that the Town has managed growth largely through aggressive conservation land acquisition and reactive 'stop-gap' zoning measures; two methods that are not sustainable. Amherst's historic settlement pattern of compact mixed-use village centers separated by

working landscapes is changing. Despite the aggressive land acquisition policies, a third of Amherst's farmland and forests have been developed since 1971. Single-home construction undermines Amherst's valuable farming industry, historic character and its economy. As farm fields transform into frontage lots or large-lot subdivisions once historic rural routes bear near-constant traffic while increased land values make farming less and less profitable. Even a single development, which may happen too quickly for public outreach or open space preservation, can completely alter the viability of a small-scale farming operation and change the entire viewshed, even if most of the land is protected.

The many farming operations in Amherst need protection from private development, dramatic changes in land use, and sale of land without considering possible alternatives: conservation restrictions, Chapter 61, mixed development scenarios and acquisition by the state or the Town for open space preservation.

The primary need is to complete the major blocks of land now under Agricultural Preservation Restrictions to maintain a local viable farming industry. With close to 2,000 acres under protection, the Town has a significant agricultural base, but it is important to complete protection of the major farm blocks to maintain their integrity, prevent incursions by residents who might object to farm activities, noise, or odors, and provide an intact reservoir of available land as the local and regional farm economies change. Two areas with significant farm blocks are along North East Street and Bay Road. The large-scale farming operations along North East Street, which runs north-south in east Amherst, have sustained farmers for generations. Recent development threatens the ability of these farms to continue operating in the future. The Bay Road corridor in South Amherst along the Holyoke Range, which offers a glimpse into the agrarian livelihood that once thrived in the community, is also under threat from development and increased land values. In addition to the presence of farming operations, this corridor began as a Native American trail and has seen continuous use since colonial settlement—a valuable resource that needs protection.

Preserved Land

Shortly after acquiring property to protect watershed lands, the Town began its open space and farmland protection efforts with purchases along the Mill River in 1963. Since then, Amherst has amassed 1,965 acres of conservation land, and has been integral to the acquisition of Agricultural Preservation Restrictions on 1,842 acres of farmland on 32 properties and an additional 157 acres protected by Conservation Restrictions.

Amherst has gradually acquired conservation lands that would eventually

constitute a system of fully protected blocks of wildlife habitat and green space, with correspondingly high scenic, recreational, and educational value. Just as the Town continues to preserve blocks of active agricultural lands, there is an urgent need to protect and expand large blocks of existing open space. Identification and prioritization of these lands has determined the following sites to be critical to wildlife habitat, natural resource protection, and community enjoyment:

Pulpit Hill: the area north of Pulpit Hill Road bounded on the east by the New England Central Railroad, on the north by the Leverett town line, and on the west by Route 63. Already protected are the 57-acre Eastman Brook Conservation Area, the 10-acre Cousins-Wood complex just east of the railroad, the 5-acre Parsons Conservation Area, the 40-acre Patteson property, and the 90-acre Cherry Hill Golf Course and adjacent Cherry Hill Co-Housing land protected by Conservation Restriction.

Cushman Brook green belt: the area along Cushman Brook between East Leverett Road and Market Hill Road. Already protected are the 51-acre Haskins Meadow Conservation Area (Amherst and Shutesbury), a 5-acre parcel next to the brook midway along East Leverett Road, and the 28-acre Cushman Brook Corridor property.

Plum Brook green belt: the area along Plum Brook from Middle Street and Chapel Road north to Pomeroy Lane, Pomeroy Court, and West Street. Already protected are the 37-acre Plum Springs Conservation Area, the 8-acre Leslie Farm Conservation Area, nearly 30 acres of protected land in the Plum Brook Conservation Area south and north of Pomeroy Lane, the 18-acre Simmons Farm Conservation Area off Middle Street, the 12-acre Westover Meadow Conservation Area, and the Plum Brook South Conservation Area and Plum Brook Recreation Area south of Potwine Lane.

The Holyoke Range, including land south of Bay Road from the Belchertown line to the Hadley line: The original goal for purchases of state park land on the Range was to secure all land above the 450-foot contour line. Present goals are to add land below that line down to as near Bay Road as possible so as to prevent development that would significantly mar the area's largest unbroken forested landscape, shared by Amherst, Granby, Hadley, South Hadley and Belchertown.

Watershed Protection

Amherst has a strong history of land preservation and stewardship. For decades, the community has been keenly aware of the value of preserved land for watershed protection, recreation opportunities, supporting the local farming community and for the protection of wildlife and habitat. Beginning

in 1940, the Town acquired more than 2,000 acres of land in Shutesbury and Pelham from the Amherst Water Company to protect its surface water supply reservoirs. The Town now holds approximately 2,600 acres in Amherst, Belchertown, Pelham, and Shutesbury to protect local watersheds that supply Amherst with much of its drinking water.

The Town water supply system currently has seven sources that include the Atkins Reservoir in Shutesbury and Amherst, the Pelham Reservoirs (Hills, Hawley, and Intake), the South Amherst Wells (#1 & #2), The Brown Well (#3), the Lawrence Swamp Well (#4) and the Bay Road Well (#5).

Surface Water Supply: Atkins Reservoir, Pelham Reservoirs

The two reservoir systems, Atkins Reservoir and the Pelham Reservoirs, provide Amherst with approximately half its drinking water and form the Town's surface water drinking supply. Atkins Reservoir, located in northeast Amherst and Shutesbury, is the Town's largest surface water supply with a surface area of 51 acres, a capacity of approximately 200 million gallons of water, and a drainage area of 5.7 square miles. The Pelham Reservoirs are three individual water bodies formed by impounding streams draining into Amherst and with a combined surface area of about 18 acres. The drainage area of these reservoirs covers approximately 6.2 square miles with 18.5 miles of streams in the hills of Pelham east of Amherst.

Even with the large amount of preserved land surrounding Amherst's surface water supplies, minimal changes in the land use, impervious surface coverage, and forested land within a watershed can greatly alter water quality. Scattered development and frontage lot construction threaten Amherst's drinking water. The Conservation Commission, aware of the need to protect the Town's water supplies, actively supports appropriate measures that will preserve both underground aquifers and their recharge areas, and above-ground reservoirs and their watersheds. The Commission endorses cooperation and assistance with neighboring towns, acquisition of private property, conservation restrictions, and implementation of forestry management plans to maintain the ecological integrity of land surrounding Amherst's surface water supplies.

The importance of these surface water supplies cannot be underscored enough, as they are uphill from Amherst and supply not only the Town's drinking water, but feed the many streams that flow through the community. Atkins Reservoir is two miles upstream from Puffer's Pond, a popular conservation and recreation area; such that the preserved land surrounding the reservoir helps preserve the water quality of the Cushman Brook and Puffer's Pond.

Areas in Amherst within the Atkins Reservoir watershed are under the jurisdiction of the Watershed Protection overlay to protect the quality of ground and surface water entering the drinking water supply. A grant awarded by the Massachusetts Department of Environmental Protection helped fund the development of a Surface Water Protection Plan, which identifies the potential sources and pathways of contamination and provide a plan to reduce nonpoint discharges to surface waters.

In 2002 the Town purchased a 37-acre wooded parcel in Pelham from Willem vanPelt to protect land adjacent to Amherst watershed property in Pelham. Sixty percent of the cost came from a grant from the State Aquifer Land Acquisition Program. A 2003 grant award from DEP helped improve the forestry management plan for lands surrounding the reservoirs and provided funding for the development of a surface water protection plan for the Pelham Reservoirs. In 2006, about 30 acres of critical land (Bray property) in Pelham were purchased for $215,000 by the Water Fund. This property contained 2 feeder streams to Hawley Reservoir and was purchased to prevent residential development.

Ground Water Supply: Wells in Lawrence Swamp

Almost half of Amherst's drinking water comes from ground water supplies located in South Amherst and in Belchertown. Much of the land surround the wells is protected by the Aquifer Recharge Protection zoning overlay district described earlier in this report. This zoning district has strict development requirements requiring clustering of homes and onsite storm water infiltration and management.

The Conservation Commission, in addition to other Town Departments, actively pursues the preservation of land and open space within the Lawrence Swamp drainage basin to protect the ground water supplies. A 2003 grant from the Massachusetts Department of Environmental Protection Grant helped fund:

- An educational program for the elementary schools in Amherst regarding groundwater protection,
- Two more groundwater monitor wells will be dug to better monitor groundwater quality in Lawrence Swamp, and
- A wellhead protection plan will be developed for Wells 1, 2, 3, 4 & 5.

Trails and Greenways

The Town of Amherst includes a large portion of the 8.5 mile Norwottuck Rail Trail which connects Northampton, Hadley and Amherst, and provides users with excellent opportunities for biking, rollerblading, walking, and cross-country skiing. Numerous long-distance hiking trails such as the Metacomet-Monadnock and Robert Frost Trail also provide outstanding opportunities for walking and hiking. nThe challenge is to find ways to link these major biking and walking trails with the parks, public schools, and town centers. By looking for opportunities to acquire land to connect trails, LSSE and the Conservation Commission can provide residents with access to a network of trails to reduce reliance on cars for transport to places to play and recreate.

In addition to creating connector trails by securing easements allowing public access on private property or through outright acquisition, the Conservation Department needs an expanded trail crew. The Department now has one seasonal trail crew, funded roughly 50 percent by Town funds and 50 percent from donations. Ideally, to maintain a further-expanded trail system adequately, the Department should develop two small, separate trail crews. One seasonal crew is necessary to do all the basic annual brushing out, mowing, and other light, high-speed maintenance of trails in the system. Especially in a wet year, that work must go on constantly, especially in view of the aggressive invasive plants that overwhelm trails, especially those that are not in shaded forest settings (multiflora rose, oriental bittersweet, winged euonymous or burning bush, autumn olive, glossy buckthorn, Japanese barberry, Japanese knotweed, and others). A second crew, ideally a year-round group, would work on larger construction and maintenance projects – bridge building and replacement, painting timber fences and steel bridges, construction of accessible trails, construction and placement of signs, and the like. Because of tight Town finances, much of the cost of the two trail crews will need to be borne by grants and donations.

B. Summary of Community's Needs

During the past thirty years, the Town has acquired 126 acres of active recreation land. These parks and areas are referred to as Mill River, Plum Brook, Community Field, Groff Park, Markert's Pond, Kiwanis Park, and the Cherry Hill Golf Course. The recreation complexes at the elementary and secondary schools adds 221 acres which can be used for active recreation such as playing fields and organized activities. The acquisition of these community spaces has been possible due the multitudes of partners that have helped Amherst over the years: local land trusts and organizations, adjacent towns, state agencies, and federal programs.

However, these facilities need to be maintained and renovated, and new facilities need to be added to Amherst's inventory of recreational lands.

Limited budgets and resources have meant that the recreational facilities do not receive the maintenance and upkeep required to keep them ADA compliant or as enjoyable and aesthetically pleasing as they could be. No new playfields have been added to the Recreation Inventory since 1974 when the Town purchased 13 acres of property on Potwine Lane for active recreation. Most recently, in 1987, 69 acres were added to the Town's inventory of active recreation land for the Cherry Hill golf course.

It may seem that with so much preserved land, approximately 2,000 acres, Amherst would meet and exceed current demand for recreational facilities. However, in order to determine Amherst's particular community/recreational needs, it is important to realize the distinction between preserved land and recreational open space—preserved land may provide for passive recreation and outdoor activities without being dedicated solely to playing fields or formal recreational facilities. Amherst has responded to the various types of activities and uses enjoyed by the community by stretching its resources too thin. With such a diverse population of users, it is difficult to concentrate efforts and funding to maintain existing recreational facilities.

It is also important to compare Amherst to national and state standards.

National Standards (NRPA)

The National Recreation and Parks Administration (NRPA) has developed widely used standards for the amount of recreational space towns should have available and open to the public. NRPA recommends a ratio of 6.2 acres of active recreational land per one thousand people. With Amherst's population of 35,962 (as of July 1, 2007), the total active recreation land should be 223 acres, by national standards However, Amherst Parks and Recreation department currently manages only 126 acres of active parklands (See descriptions in Section 5, Table A).

Amherst's inventory of public lands consists of another 228 acres, including public school land and the three town commons (total acreage of Town Commons is approximately 7.3 acres).. However, these lands are not under the care and control of the Town Parks and Recreation Department. The public school fields—high school, middle school and four elementary schools—are used by LSSE, but access is limited and not guaranteed. The three town commons, in the Town Center, East Amherst and South Amherst, which are valued for informal recreation, cannot sustain regular use by active, organized sports.

Given the increasing number of new residents who have come to Amherst from other parts of the country, this national standard may increasingly be used to judge the quality of the Town's recreational opportunities. However,

additional acreage should only be added to meet specific needs rather than to arbitrarily increase the number of acres under active recreation status. Based on the inventory of active parks and recreation lands, and according to the national standards, Amherst needs to add up to 97 acres of active recreation land to meet the national standards.

State Standards (SCORP)—2006

In the Connecticut River Valley Region, as described in Chapter 5 of the Statewide Comprehensive Outdoor Recreation Plan (SCORP), swimming (52%), golfing (26%) and playground use (25%) are the most popular active organized recreational activities for people living in this region. Walking (44%) and picnicking (26%), popular passive recreation activities, are amenities that Amherst's Leisure Services and Supplemental Education (LSSE) Department can provide. The highest priorities for funding preferences reported in SCORP were:

- Maintaining existing facilities (98%);
- Restoring and improving outdoor recreational areas (92%);
- Improving access for people with disabilities (89%);
- Providing guides and interpretive information (84%); and
- Purchasing new outdoor recreational areas (79%).

Finally, SCORP shows that "the inferred need for new recreational areas in the Connecticut River Valley Region" includes establishing new parks and golf courses, new trails and greenways, and new bikeways.

Leisure Services and Supplemental Education (LSSE)

The mission of the Town of Amherst's Leisure Services and Supplemental Education (LSSE) Department is to cultivate the social, physical, intellectual, and artistic development of children, youth and adults.

Multiple public surveys report that LSSE's family, youth and adult programs are regarded as high quality. In one customer evaluation survey, nearly three quarters (71%) of the participants indicated that the programs and facilities provided by LSSE are very important to the respondent and/or the respondent's family. Over 50% indicated that they participate at least once a week in LSSE programs. The programs that users most frequently participate in are the youth sports, adult education classes, and aquatics programs. Also popular are the Hot Summer Nights (movies and music on the Town Common), and the annual Fourth of July celebration on the University of Massachusetts campus. The key motivations for participation are a desire to

meet new people and socialize, enjoy recreational activities, provide quality experiences for children, and learn new skills in educational programs.

Setting a goal to increase Amherst's active recreation acreage would help the community achieve national standards and meet state funding priorities. Increasing acreage dedicated to active recreation would also give LSSE the flexibility to expand existing parks and trails when an opportunity to acquire parcels adjacent to preserved land arises. This would allow Amherst to enhance the overall quality of experience and activities offered in town. The Leisure Services and Supplemental Education (LSSE) Department, drawing upon results from the public planning process, and in concert with various town departments, has determined the following as Amherst's most critical community needs:

- To create a distinct Recreation Department that maintains and generates funding for the maintance and creation of active recreational facilities.
- To actively pursue development of a Community Recreation Facility in the Town Center.
- To create new and successful active recreational facilities to improve the quality of life for all age groups and diverse populations in the community;
- To be responsive to changing community interests and needs;
- To provide an adequate supply of accessible, well-maintained recreational facilities that will meet the needs of our community;
- To expand opportunities, indoor and outdoor, for swimming, one of the most popular recreational activities in Amherst;
- To make existing parks attractive destinations within higher density areas of Amherst, in particular, develop playgrounds for young children close to downtown and other population centers; and
- To increase accessibility of existing recreational lands and trails, and public facilities at recreational fields.

In addition to the general town-wide goals stated above, LSSE determined the following site- or activity- specific need from community surveys:

Community Recreation Center: In a recent LSSE survey, users were specifically asked whether there is a need for a new community center. Nearly two-thirds of the respondents were in support of a centralized, multi-use

community center that could provide studio and performing arts space, a teen center, a gymnasium and a swimming pool. A similar proportion of people stated that they would use such a center on at least a weekly basis. An indoor/outdoor community recreation center that provides indoor swimming and other recreational activities would better serve the needs of the community throughout the whole year. A dedicated recreational center would also allow LSSE to offer more conveniently scheduled and centrally located activities. Currently, the LSSE schedule is limited by the need to use other town facilities, such as the schools, for its programs.

Universal Access: Under the guidance of the Conservation Commission, the Department oversees close to 2000 acres of public conservation land including more than 80 miles of trails. Amherst conservation areas include a mosaic of different habitats including wetlands, ponds, streams, fields and upland forests. Trails are found in all parts of Amherst, providing residents and visitors alike with opportunities to walk and cycle through habitats on everything from basic woodland trails to elaborate elevated boardwalks. The Department maintains hundreds of bridges of all shapes and sizes- some made of wood, telephone poles and more complex structures made of steel. Most of these areas provide visitors with basic unimproved parking on grass or dirt. With the exception of those referenced below, none of the Amherst conservation trails would meet ADA requirements.

Given topography, wetlands, stream crossings and other factors it is highly unlikely that many Amherst Trails will ever meet ADA requirements. Instead, it seems prudent to continually assess where new trails might be added to make other conservation lands accessible, and to improve accessibility of facilities at existing recreational facilities. The Town has the beginnings of an accessible, or universal access, trail system with the Kevin Flood Trail at the Mill River Conservation Area, the Kevin Dimock Trail at the Larch Hill Conservation Area (Hitchcock Center headquarters), the Norwottuck Rail Trail (extending to Belchertown, Hadley, and Northampton), a short trail from State Street to the fishing and swimming area at Puffer's Pond, and the Rail Trail Connector to UMass. Ideally, the system will be improved and expanded to include other routes potentially suitable for wheelchair use and use by visually impaired users.

Swimming: Swimming is by far one of the most popular recreational activities in Amherst. The Mill River and War Memorial Pool provide summer use for many residents. The Middle School Pool has been available during limited hours for winter use. However, users surveyed indicate a desire for bigger and better pools, an indoor pool, and other hot weather relief, such as a spray park. Some of these needs could be met by building a comprehensive community recreation center, as outlined above.

Skateboarding: Skateboarding and roller boarding has a significant following

in Amherst from elementary school kids to young adults. The problem is that there is no legal place to skateboard in the town. Massachusetts has hundreds of skateboard parks, but the closest park to Amherst is in Northampton, a far reach for students and young people. The result is that skaters use sidewalks illegally and sometimes dangerously. Skateboard parks are typically concrete plaza like structures located in downtown areas. Amherst has several possible locations for this activity.

Playgrounds: Playgrounds for young children are in high demand among young families in Amherst, confirming the findings of the SCORP analysis. Recent upgrades to some facilities have been welcome. However, additional renovations and ongoing maintenance are needed. New playgrounds close to downtown and other population centers have been requested. The development of more playgrounds would serve the needs of Amherst's youngest residents, and provide a social gathering point for adults.

Golf: The popularity of golfing has recently been satisfied in Amherst with the establishment of the Cherry Hill Golf Course. This new recreation area provides affordable access for new golfers in a serene setting. The recreation area also serves the needs of cross-country skiers and sledders in the winter.

Basketball: More than 700 children participate in basketball in Amherst. Indoor and outdoor courts provide opportunities to play during all four seasons. However, Amherst's inventory of outdoor courts is in need of maintenance and renovation. Additional courts could be located in new pocket neighborhood parks, if the associated increased need for maintenance can be met.

Ice Skating: Amherst once had a tradition of flooding part of the town commons to provide outdoor ice skating rinks in the winter. Changing weather patterns due to global warming have made upkeep of this activity challenging. However, both public nostalgia and increasingly limited 'ice time' on organized rinks are generating support among residents for this fun family activity. A revival of these temporary skating rinks may be warranted during long stretches of freezing weather.

Baseball/Softball: Maintenance of these fields are critical for safety and longevity of the facilities. Baseball and softball fields are widely used by kids, adults, college students and other local programs. Unlike many other team field sports, baseball and softball require a diamond and well-groomed sand surface, particular maintenance needs that if neglected, result in the quick demise of the field.

Tennis: Amherst has a few tennis courts available to the public, as noted in the Section 5 inventory. There is a need to renovate these courts to provide reasonable playing surfaces, and to increase the number of public tennis

courts. Ideally, the courts would be located throughout town near residential neighborhoods and public transportation routes to make them more accessible to all of Amherst residents.

C. Management Needs, Potential Change of Use

As noted in Section 2, Amherst is experiencing a shift away from decades of emphasis on the acquisition of critical open space toward a new emphasis on appropriate stewardship and management of areas that have been preserved and are now often heavily used.

Popular hiking trails and selected conservation areas are regularly experiencing overuse and degradation. Sustaining fulltime management staff and resources, as well as seasonal field crews, will be critical to the community's ability to maintain environmental quality and provide reasonable public access to preserved lands. Pet owner education and control is a growing issue, and programmatic as well as practical ways to address issues of overuse are becoming imperative. The protection and maintenance of scenic viewsheds from the community's public ways will require coordination between those with responsibility for conservation, public works and public shade tree interests. It will also be essential to increase the level of involvement from citizen volunteers who can provide time necessary to complete many projects.

In addition to the normal range of organized recreational activities, a range of outdoor recreation resources and trends in Amherst combine to create the opportunity for a new synthesis between traditional organized municipal recreation and long-established (but often unorganized) outdoor recreation. These resources include:

- Amherst's extensive network of preserved conservation and farm lands;
- 80+ miles of conservation trails;
- Two significant small river systems and their tributaries;
- The presence and availability of the Norwottuck Rail Trail and an increasing network of on- and off-street bicycle paths/trails and facilities; and
- Existing and planned new connections between recreation fields/facilities and conservation trails.

All of these add up to an opportunity Amherst should pursue. Bicycle touring, hiking, cross-country skiing, snowshoeing, bird-watching, organized nature

walks of many kinds, fishing, hunting, etc. are some of the outdoor recreation activities usually pursued by individuals or organized only by private groups. These activities represent a critically important potential supplement to the traditional organized field sports in which municipal recreation departments have so long and narrowly specialized.

Financial resources for traditional organized field sports have been diminishing at the state and local level for some time. Outdoor recreation, including but not limited to traditional consumptive recreation activities such as fishing, hunting, trapping and gathering, establishes for its participants life-long connections to nature and habits of exercise in the outdoors. These activities benefit the physical health, emotional well-being, and depth of environmental understanding in participants, and benefit the community as a whole. Some portion of Amherst's future open space and recreation planning and program activity should increasingly be directed toward exploring ways for organized recreation activities to take advantage of Amherst's existing outdoor resources.

Amherst has also welcomed the opportunity to use the numerous fields that exist on the three college campuses to help meet the town's need for playing fields. However, the campuses have refused to enter into long-term lease agreements with Amherst, making access erratic and unreliable. The inventory of campus land, traditionally used by community and Town teams, has also steadily shrunk over the years, creating scheduling challenges as numerous programs vie for fewer fields. For example, two fields at the University of Massachusetts were recently lost to new dorms and a new parking lot. Some informal playing fields have become improved for varsity team facilities, making them unavailable to Amherst youth sports programs. In fact, the University has ranked LSSE 8th in a long line of user groups that want access to their fields. When a University field is then taken offline, significant pressure falls back on the Town and School resources. The result is that all youth sports programs are affected by this critical shortage. Some programs are cut and the request for new programs goes unanswered. LSSE estimates the Town could use ten (10) more playing fields (up to 50 acres) to accommodate the growing demand for field sports and to make up for the decreasing availability of public school and college campus fields.

The Amherst schools' gyms and fields have also been less and less accessible to LSSE over the years. The Schools have more sports teams to accommodate on School fields due to loss of the University fields described above. As a result, some school sports teams have been dropped by Amherst Schools and picked up by LSSE, including youth football, girls/boys basketball, girls volleyball, and girls lacrosse. School sports teams have been forced to use Town fields. Junior and Variety football use Community Field and Boys Ultimate Frisbee uses Kiwanis Park. Even college intramural teams, who have lost access to campus fields for varsity sports, are now using town/school

fields with increasing frequency.

The scarcity of Town fields, and the increasing pressure to use them by school and college groups, means that existing fields are overused. Many fields need a period of "rest" so they can be re-seeded, rolled, and repaired. The problem is that there are not enough fields in the current inventory to allow for a rotation schedule. This issue is often compounded by poor drainage of the fields, making them wet and muddy during much of the playing season.

The limited supply of reliably available, safe, outdoor athletic fields shows the need to prioritize the acquisition of additional park and recreation lands, as well as renovate and expand key parcels to make them more useful. By seeking land that is contiguous to existing conservation areas and parks, LSSE can provide opportunities that offer users both passive and active recreation options. By identifying land acquisition opportunities near major public transportation routes and trails, new playing fields will be more accessible to the town's youth.

Section 8. Goals and Objectives

The goals and objectives intend to achieve a balance of conservation and recreation. The community needs from Section 7 offer many opportunities for collaboration between various organizations, Town departments, and boards and committees. The following list of goals and objectives is based on community surveys, input from public meetings and from Amherst's 2008 Draft Master Plan.

The goals and objectives are numbered and lettered in correlation with the appropriate action strategies described in Section 9 [Action Plan].

Goal 1. Protect farmland and prime soils by enhancing Amherst's rural character and agricultural viability.

Objectives:

- Protect and encourage productive farms and agricultural businesses in areas traditionally farmed and where those businesses are currently operating.
- Work with the Agriculture Commission to promote and preserve the local agricultural economy.
- Educate the public about value of working landscapes.
- Continue to expand the use of funding for APR and CR acquisition of farmland.

Goal 2. Focus land preservation efforts in areas identified as priority habitat, containing valuable natural resources, prime agricultural soils, watershed lands that supply Amherst's drinking water, and areas with large contiguous blocks of undeveloped open space.

Objective:

- Identify and prioritize key parcels for acquisition or protection to help preserve lands for conservation (trail, habitat and biodiversity), recreation, watershed protection, and agriculture.
- Increase size and quality of wildlife habitat along riparian corridors and wooded uplands.
- Protect scenic points from which to view important natural features such as the Lawrence Swamp, Mount Holyoke Range, the Pelham Hills, local ponds and rivers, and farmland.
- Protect wetlands and water supply sources.

Goal 3. Provide and develop multi-use and multi-generational recreational opportunities that bring townspeople together.

Objectives:

- Develop recreational areas that integrate active and passive recreational opportunities available to all ages and abilities, from childhood to old age.
- Establish recreational opportunities near population centers such as existing neighborhoods and the Town Center.
- Maintain, renovate and adapt existing parks, facilities, fields and recreational areas to serve multiple purposes and to meet the changing recreational trends of the community, from soccer to swimming to rock climbing.
- Develop universal access programs to provide outdoor activities for those with disabilities and mobility impairment.

Goal 4. Expand and connect existing preserved land and trail system to make a greenway network throughout town.

Objectives:

- Reduce reliance on cars and improve walkability in the Town Center and outlying village centers.
- Prepare and implement a universal access trail plan for the Town (initial draft included in this text).
- Improve yearly trail maintenance and strengthen regulations governing trail use.
- Remove barriers to participation in programs and use of facilities by obtaining additional fee subsidy and special needs assistance.

Goal 5. Develop a variety of land protection approaches that balance development regulations, protection of natural resources and wildlife habitat, and the need for recreational space.

Objective:

- Collaborate with local organizations and colleges to coordinate use of recreation lands and parks, and to reduce operating costs and scheduling conflicts.
- Institutionalize a process for rationalizing competing public land use interests.
- Lessen the impact and disturbance of new developments to wildlife habitat and areas with high ecological value.
- Mitigate competing uses and conflicting activities on conservation and recreation lands.

Goal 6. Develop partnerships with organizations to protect, manage and promote the town's natural attractions that are the basis for tourism and the cultural economy.

Objective:

- Enhance outdoor recreation possibilities, including (1) non-consumptive passive – hiking, mountain biking, cross-country skiing, bicycling, horseback riding, picnicking, pond swimming, birding, and nature study; (2) consumptive traditional– hunting and trapping in selected locations, fishing, and others; and (3) active – pool swimming, team sports, and other activities that require built facilities.
- Increase program activity directed toward organized outdoor recreation activities that make use of Amherst's existing preserved lands and trails.
- Market farms and Amherst-based agricultural products.

The Action Plan

below shows a number of objectives with associated projects and strategies developed through community input and with consultation from the Conservation, Planning, and LSSE Departments. Many of the actions listed reflect priorities and recommendations that have been in development for many years, and it is Amherst's intention that this plan will help begin the implementation phase of such projects.

Goal 1. Protect farmland and prime soils by enhancing Amherst's rural character and agricultural viability.		
	Objectives:	*Actions*:
	Protect and encourage productive farms and agricultural businesses in areas traditionally farmed and where those businesses are currently operating.	• Make use of Community Preservation Act (CPA) funds for conservation, farmland protection, and recreation in a way that complements the other CPA goals of historical preservation and provision of low-income housing. • Identify and preserve unprotected priority agricultural lands (i.e. Farmland Conservancy zoning district and areas with prime soils). • Develop a protocol for conserving active farmland and open space within these priority areas. • Direct infill development to existing village centers with zoning, developer incentives and transfer of development rights (TDR's).
	Work with the Agriculture Commission to promote and preserve the local agricultural economy.	• Refine the Town's Farmland Conservancy zoning overlay district to reflect accurate land uses and prime soils. • Eliminate and modify regulatory obstacles to preserving farmland with conservation restrictions and other innovative land management techniques. • Increase citizen resources, in particular, availability of funding for small-scale farming operations.
	Educate the public about the value of working landscapes.	• Enhancement of a community-wide sign system, including a standard design, that helps interpret farming operations and connects outdoor recreation with agriculture. • Use the various media resources (website, Town Hall, Library, local tv) to advertise workshops and inform the public about the role of farming to the local economy. • Build a permanent farmer's market where local produce is sold and where educational material can be handed out.
	Continue to expand the use of funding for APR and CR acquisition of farmland.	• Develop protocol for working with private landowners prior to the sale of property. • Increase grant applications and attend workshops for keeping farmland in your community. • Make use of flexible zoning and limited development scenarios to make cost of farmland conservation feasible.

Goal 2. Focus land preservation efforts in areas identified as priority habitat, containing valuable natural resources, prime agricultural soils, watershed lands that supply Amherst's drinking water, and areas with large contiguous blocks of undeveloped open space.		
	Objectives:	*Actions*:
	Identify and prioritize key parcels for acquisition or protection to help preserve lands for conservation (trail, habitat and biodiversity), recreation, watershed protection, and agriculture.	• Make use of the Town's extensive GIS database and sophisticated mapping software to help prioritize areas for protection. • Match these parcels with public and private programs that will support acquisition and/or protection.
	Increase size and quality of wildlife habitat along riparian corridors and wooded uplands.	• Acquire and preserve land along the Mill and Fort Rivers and their tributaries, to protect water quality and aquatic habitat. • Create contiguous blocks of open space with conservation restrictions or outright title. • Revise zoning overlay districts for aquifer, watershed, and farmland resources. Create a zoning overlay district for critical forest resource areas.
	Protect scenic points from which to view important natural features such as the Lawrence Swamp, Mount Holyoke Range, the Pelham Hills, local ponds and rivers, and farmland.	• Use zoning by-laws e.g. open space offsets, Transfers of Development Rights (TDRs), and preservation banks, to encourage design that enhances the landscape. • Develop a street tree inventory and shade tree replacement plan in conjunction with the 250th anniversary.
	Protect wetlands and water supply sources.	• Land management • Land acquisition • Enforcement of regulations that protect wetlands and other water resources.

Goal 3. Provide and develop multi-use and multi-generational recreational opportunities that bring townspeople together.		
	Objectives:	*Actions*:
	Develop recreational areas that integrate active and passive recreational opportunities available to all ages and abilities, from childhood to old age.	• Increase the diversity and range of quality recreational and supplemental education programs for residents of Amherst. • Support the Kendrick Park Committee and a juried design competition to develop a vision for Kendrick Park. • Provide a mix of long trails (the 42-mile Robert Frost Trail and the 6-mile KC Trail), short out-and-back trails, and short loop trails. • Expand Puffer's Pond as a conservation and recreation area with volunteer stewardship programs, develop formal swimming areas, increase accessible trail system, and interpretive sign system explaining benefits of respecting the environment.
	Establish recreational opportunities near population centers such as existing neighborhoods and the Town Center.	• Site, design and construct a skateboarding and roller boarding park, preferably near public transportation and in the town center or village centers. • Establish and enhance open spaces in and around the Town Center and outlying village centers, connected where feasible to other Town trail systems and public transportation, to create a walkable network of urban parks. • Research the feasibility of building a new multi-use, indoor/outdoor community recreation center near Amherst Center that could provide studio and performing arts space, a teen center, a gymnasium, and a swimming pool. • Develop playgrounds for young children close to downtown and other population centers. • Inventory old "pocket park" projects (Stanley Street, Cow Field, Orchard Valley, Pomeroy Court) and develop a plan for their restoration to better serve the public's use. • Work with affordable housing, transportation, and conservation departments and other community organizations to position the town's parks as vital centers of civic and economic life.

	Maintain, renovate and adapt existing parks, facilities, fields and recreational areas to serve multiple purposes and to meet the changing recreational trends of the community, from soccer to swimming to rock climbing.	• Construct new multipurpose playing fields (LSSE estimates the Town could use ten (10) more playing fields (up to 50 acres)), especially for middle and high school aged students, in various locations throughout town to compensate for loss of fields traditionally open to the community by the college campuses. • Focus the development of new facilities on activities that are underserved by the current limitations of the Town's existing recreational assets, e.g. multi-use active recreational fields. • Maintain and improve Amherst's inventory of outdoor basketball courts, with additional courts designed for pocket neighborhood parks. • Develop temporary skating rinks in public parks or the town commons to provide informal outdoor ice-skating in the winter. • Increase the number of public tennis courts. • Research and study the feasibility of using the old landfill for recreation. • In South Amherst, Groff Park could be expanded and upgraded with a spray park, basketball courts, and another playing field to complement the peaceful picnic area, playground, and riverside paths. • Update the Mill River Recreation Area in North Amherst with new lighting, tennis courts, and facilities.
	Develop universal access programs to provide outdoor activities for those with disabilities and mobility impairment.	• Reduce architectural barriers along pedestrian routes, especially 'in-town' sidewalks and trails. • Develop a town-wide sign system for recreational facilities, parks and conservation land that consists of directional and site specific signs, as well as rules and regulations postings. • Develop Puffer's Pond area with a fully accessible trail loop and system, and beach area.

Goal 4. Expand and connect existing preserved land and trail system to make a greenway network throughout town.		
	Objectives:	*Actions*:
	Reduce reliance on cars and improve walkability in the Town Center and outlying village centers.	• Establish new connector trails to residential neighborhoods, connecting people to where they live, work, shop and go to school. • Expand protection for the Robert Frost Trail, the KC Trail, and sections of other present and future trails that cross private land by establishing permanent easements to replace unwritten oral agreements. • Make new off-road routes to replace short road sections of the Robert Frost and KC Trails. • Identify land acquisition opportunities that are contiguous to existing conservation areas and parks, and are near major public transportation routes and trails to help make new playing fields more accessible to the town's youth through a greenway network of trails. • Acquire land that provides natural linkages between trails, preserved lands and recreation areas. • Augment the public trail system with permission from private landowners to connect residential, commercial, and institutional destinations to public rights-of-way as a means of encouraging sustainable transportation.
	Prepare and implement a universal access trail plan for the Town (**initial draft included in this text**).	• Improve opportunities for people with disabilities to access trails and conservation areas. • Reduce architectural barriers along pedestrian routes, especially 'in-town' sidewalks and trails. • Provide good trail connections to elementary schools, secondary schools, the colleges, and the University. • Establish an advisory group composed of individuals throughout the community and from various organizations to oversee implementation of the plan. • Develop a design guidelines handbook that shows techniques to make trails and facilities universally accessible and fully ADA compliant. • Design and install a system of signs at trailheads, parking areas and at all recreational facilities that clearly show skill level, accessibility areas, and designated uses for each location.
	Improve yearly trail maintenance and strengthen regulations governing trail use.	• Hire additional staff to carry out maintenance functions. • Assign increased budget priority to the management and upkeep of conservation and recreation properties. • Control and elimination of invasive species. • Survey all conservation lands to complete boundary marking and respond to encroachment from abutters. • Address erosion and compaction issues throughout the trail system. • Improve the sign system with a standard design and placement. • Place dedicated recycling receptacles in public spaces in the downtown and village centers to facilitate and encourage recycling.

	Remove barriers to participation in programs and use of facilities by obtaining additional fee subsidy and special needs assistance.	• Increase cooperation with schools who allow the use of facilities for LSSE programs. • Develop a system that assigns greater management and maintenance of facilities to responsible entities and to programs that more frequently use that specific facility.

Goal 5. Develop a variety of land protection approaches that balance development regulations, protection of natural resources and wildlife habitat, and the need for recreational space.		
	Objectives:	*Actions*:
	Collaborate with local organizations and colleges to coordinate use of recreation lands and parks, and to reduce operating costs and scheduling conflicts.	• Secure a long-term agreement with one or more of the college campuses to ensure more reliable access to playing fields and for community events. • Develop a rotation schedule [with the Town, Amherst Schools, colleges and university] for playing fields, giving them a period of "rest" so they can be maintained (re-seeded, rolled and repaired). • Prioritize the scheduling of routine maintenance and major renovations to keep facilities and playing fields safe. • Coordinate activities at summer pools (Mill River and War Memorial Pool), especially free swimming hours open to the public. • Develop clear agreements between the regional school department and the Town that define the division of maintenance responsibilities for recreational facilities.
	Institutionalize a process for rationalizing competing public land use interests.	• Develop an administrative land use review process for all Town projects. • Require community charrettes as part of the permitting process, to encourage public input into design.
	Lessen the impact and disturbance of new developments to wildlife habitat and areas with high ecological value.	• Preserve open space with conservation and deed restrictions, and establish easements that provide scenic protection and future public access. • Develop a system where applicants and various town boards and committees can work concurrently to review applications. • Actively manage Town-owned conservation land as wildlife habitat. • Create zoning regulations and local tax incentives to encourage, or where possible, mandate cluster subdivision design, construction of energy-efficient buildings, green/sustainable site design, and use of renewable energy sources (solar, wind, etc.). • Promote the use of buffer zones to minimize the impact of new buildings on nearby key resources.

	Mitigate competing uses and conflicting activities on conservation and recreation land.	• Increase number of signs at trailheads, conservation areas, and recreational facilities that enumerate all the rules, regulations and penalties. • Reach out to all user groups (eg. dog walkers, hikers, cyclists, ATV riders) to cooperatively balance and mitigate impacts on conservation land. • Establish a public awareness campaign that utilizes the Town's website, broadcast media—public access television and local newspapers. • Create a clearinghouse to compile and disseminate information on impacts of dog usage on conservation lands.

Goal 6. Develop partnerships with organizations to protect, manage and promote the town's natural attractions that are the basis for tourism and the cultural economy.		
	Objectives:	*Actions*:
	Enhance outdoor recreation possibilities, including (1) non-consumptive passive – hiking, mountain biking, cross-country skiing, bicycling, horseback riding, picnicking, pond swimming, birding, and nature study; (2) consumptive traditional– hunting and trapping in selected locations, fishing, and others; and (3) active – pool swimming, team sports, and other activities that require built facilities.	• Work with Chamber of Commerce to encourage sustainable cultural and recreational tourism. • Create a "Green Infrastructure" Plan: Build on the work embodied in the Climate Action Plan to address future growth patterns, and comprehensively assess and amend existing community plans, policies, and regulations. • Increase number of citizen volunteers through training workshops. • Invent and promote a green motto for Amherst ("Amherst goes green" or the like), and give out rewards/awards/plaques for lifestyle choices. • Continue to partner with local land trusts to help protect open space and develop trails and trail easements.
	Increase program activity directed toward organized outdoor recreation activities that make use of Amherst's existing preserved lands and trails.	• Inventory and evaluate Town-owned lands that are not dedicated or restricted to an exclusive public use. • Continue development and expansion of the Literary Trail System that will draw attention to the town's rich literary history, especially to those writers whose literature relates to the natural environment. • Establish a permanent exhibit at the Jones Library that will help residents and visitors locate the trails and acquaint them with the library's extensive collection of works by local authors. • Develop a Visitor/Cultural Center in the Town Center that provides information and amenities such as public restrooms, publicity materials, and a calendar of events.
	Market farms and Amherst-based agricultural products.	• Develop a permanent farmer's market location and infrastructure. • Create a walking trail linking farm stands, CISA farms and local working landscapes. • Educate and assist local producers about the Farm Viability Grant program.

Section 10. Public Comments

Public comments were received in a variety of ways while developing this plan, including: public meetings, dots placed on maps in priority areas, discussions in the OSRP master plan workgroup, and weekly meetings between conservation, agriculture, and recreation staff members.

Specific comments from public meeting were recorded and have been implemented in this draft and will be in the final plan as well. Excerpts include:

- We need to think about not just parcels specifically, but improvements to existing parcels.
- Important to establish relationships with private land owners, in terms of trails/
- Town deficiency specifically is facilities for team sports.
- It's not just providing the field, but the quality of the field.
- Recreation fields are overused.
- People have to be turned away from team sports and activities, from lack of fields and facilities.
- The University's recreational field inventory is shrinking. The University also must look at bringing in rental fees for their fields in a more vigorous way.
- Establish connections between trails.
- Encourage the conservation of farmland and the viability of the farm community.
- Amherst is a regional center and need more recreation areas.
- Need proper signage and publicity for specific areas.

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Section 11. References

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